UNIVERSIDADE D
COIMBRA

Daniela Filipa Ventura Fernandes

MINDFUL MOMENT - PROGRAMA DE PARENTALIDADE MINDFUL E COMPASSIVA PARA MÃES DE BEBÉS:

DESENVOLVIMENTO E ESTUDO DA VIABILIDADE E EFICÁCIA PRELIMINAR DE UMA INTERVENÇÃO ONLINE

Tese no âmbito do doutoramento em Psicologia, especialidade em Psicologia Clínica, orientada por Helena Moreira e por Maria Cristina Canavarro e apresentada à Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra.

maio de 2022

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Caminho

Desnudado caminho… o meu.
Repleto de sonhos e medo,
Perigoso, inquieto e muito mais.
Mas meu...
Teimoso, aguerrido,
Louco, sim, talvez um pouco.

Desnudado caminho… o meu.
Que me inquieta o sonho da alma,
Me acrescenta e desafia,
Me abençoa e contraria
O corpo, a mente e a calma.

Desnudado caminho… o meu.
Leva-me para onde eu for.
Tranca o medo lá longe,
Liberta-me o sonho e
Guarda em mim o amor.

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Abreviaturas e Siglas

ACeS	Agrupamento de Centros de Saúde
ANOVA	Análises univariadas da variância [*Analysis of variance*]
APA	Associação Americana de Psicologia [*American Psychological Association*]
ARS	Administração Regional de Saúde
ATL	Atividades de Tempos Livres
CDC	Centros de Controlo e Prevenção de Doenças [*Centers for Disease Control and Prevention*]
CEDIME	Centro de Informação do Medicamento e Intervenções em Saúde
CFI	Índice de Ajustamento Comparativo [*Comparative Fit Index*]
CINEICC	Centro de Investigação em Neuropsicologia e Intervenção Cognitivo-Comportamental
CONSORT	*Consolidated Standards of Reporting Trials*
COVID-19	Doença por Coronavírus – 2019 [*Coronavirus Disease – 2019*]
DGS	Direção-Geral da Saúde
DITQ	Questionário de Temperamento Difícil do Bebé [*Difficult Infant Temperament Questionnaire*]
DRE	Diário da República Eletrónico
EPDS	Escala de Depressão Pós-Parto de Edimburgo [*Edinburgh Postnatal Depression Scale*]
FCT	Fundação para a Ciência e a Tecnologia
FPCE-UC	Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra
HADS	Escala de Ansiedade e Depressão Hospitalar [*Hospital Anxiety and Depression Scale*]
IM-P-I	Escala de Mindfulness Interpessoal na Parentalidade - Versão Bebé [*Interpersonal Mindfulness in Parenting Scale – Infant version*]
ITT	*Intention-to-treat*
LMM	Modelos Lineares Mistos [*Linear Mixed Model*]
MAAS	Escala de Atenção e Consciência plena [*Mindful Attention Awareness Scale*]
MANOVA	Análise multivariada da variância [*Multivariate analysis of variance*]
MAR	Valores em falta ao acaso [*Missing at random*]
MCAR	Valores em falta completamente devido ao acaso [*Missing completely at*

	random]
MEE	Modelos de Equações Estruturais
NMAR	Valores em falta não devidos ao acaso [*Not missing at random*]
OMS / WHO	Organização Mundial da Saúde / *World Health Organization*
OPP	Ordem dos Psicólogos Portugueses
PBQ	Questionário de Ligação ao Bebé após o Nascimento [*Postpartum Bonding Questionnaire*]
PRISMA	*Preferred Reporting Items for Systematic Reviews and Meta-Analyses*
PSAS	Escala de Ansiedade Específica do Pós-parto [*Postpartum Specific Anxiety Scale*]
PSS	Escala de Stress Parental [*Parenting Stress Scale*]
RCT	Ensaio Clínico Aleatorizado [*Randomized Controlled Trial*]
RD&S	Relações, Desenvolvimento & Saúde
RGPD	Regulamento Geral de Proteção de Dados
RMSEA	Raiz do Erro Quadrático Médio de Aproximação [*Root Mean Square Error of Approximation*]
SARS-CoV-2	Síndrome Respiratória Aguda Grave por Coronavírus – 2 [*Severe Acute Respiratory Syndrome – Coronavírus – 2*]
SCS-SF	Escala de Autocompaixão - Versão Breve [*Self-Compassion Scale – Short Form*]
SPSS	*Statistical Package for the Social Sciences*
SRMR	Raiz do Quadrado Médio Residual [*Standardized Root Mean Square Residual*]
T1	Primeiro momento de avaliação
T2	Segundo momento de avaliação
TCC	Terapia Cognitivo-Comportamental
TFC	Terapia Focada na Compaixão
TIC	Tecnologias de Informação e Comunicação
TPM	Treino de Parentalidade Mindful
TPMB	Treino de Parentalidade Mindful com Bebés
TPMC	Treino de Parentalidade Mindful com Crianças
VP	Versão portuguesa
WLC	Controlo em lista de espera [*Waiting-list Control*]

Resumo

Introdução

Ainda que o período após o nascimento de um bebé seja para muitos pais e mães um período gratificante e satisfatório, é também uma fase desafiante, conduzindo muitas vezes a que os pais, principalmente as mães, experienciem níveis elevados de stress parental. O stress parental tem sido associado a diversas consequências negativas para a relação mãe-bebé, para o desenvolvimento futuro da criança e para a parentalidade. A investigação tem sugerido que mesmo as mães que não experienciam níveis elevados de stress, encontram frequentemente dificuldades em adaptar-se ao papel parental. Assim, o desenvolvimento de intervenções psicológicas que ajudem as mães a adaptar-se ao período pós-parto e a desenvolver competências parentais positivas revela-se essencial. Neste contexto, as intervenções parentais promotoras de uma parentalidade mindful e compassiva, poderão desempenhar um papel importante, ao ajudar as mães a regular o seu stress parental e a promover relações mais positivas e seguras com os seus bebés. A atual pandemia de COVID-19, especialmente durante as primeiras vagas, veio dificultar a implementação de intervenções presenciais e em grupo, o que levou a um maior investimento em intervenções *e-health* para a promoção da saúde mental (*e-mental health*), particularmente úteis num contexto pandémico, dada a sua acessibilidade e flexibilidade. O *Mindful Moment* – um programa de parentalidade mindful e compassiva, online e autoguiado – surgiu neste contexto, tendo como objetivo oferecer às mães com níveis moderados/elevados de stress parental, que se encontram no período pós-parto, uma intervenção psicológica que, de outra forma (i.e., presencialmente e em grupo), não lhes seria acessível devido às restrições impostas pela pandemia. O Mindful Moment é constituído por seis módulos, focados na relação parental e na promoção de recursos psicológicos protetores (mindfulness e autocompaixão).

O presente trabalho de investigação foi desenvolvido tendo em conta três objetivos gerais: (1) avaliar, sistematicamente, o efeito das intervenções parentais baseadas na parentalidade mindful e compassiva, aplicadas nos primeiros anos de vida da criança, incluindo o período pós-parto, na promoção de competências parentais positivas e na melhoria da qualidade dos cuidados parentais (Fase I); (2) explorar e compreender a experiência emocional das mães no período pós-parto, assim como os diferentes fatores e mecanismos-chave associados à adoção de uma parentalidade mindful e compassiva, antes e durante a pandemia de COVID-19 (Fase II); e (3) desenvolver, implementar e avaliar o Mindful Moment, numa amostra de mães com níveis moderados ou elevados de stress parental, no período pós-parto (Fase III).

Metodologia

O presente trabalho de investigação compreendeu três fases associadas aos objetivos previamente apresentados.

A **Fase I** consistiu no desenvolvimento de uma revisão sistemática da literatura, que incluiu estudos empíricos, com intervenções parentais baseadas na parentalidade mindful e compassiva, aplicadas nos primeiros anos de vida da criança, incluindo o período pós-parto, que pretendiam promover competências parentais positivas e a qualidade dos cuidados parentais.

A **Fase II** constou no desenvolvimento de quatro estudos empíricos, três com um desenho transversal e um com um desenho longitudinal, que pretenderam explorar e compreender a experiência emocional das mães no período pós-parto, assim como os diferentes fatores e mecanismos-chave associados à adoção de uma parentalidade mindful e compassiva.

A **Fase III** compreendeu o desenvolvimento de dois estudos empíricos: 1) um estudo focado na compreensão dos comportamentos de procura de ajuda das mães e das respetivas barreiras percebidas; este estudo pretendeu também explorar o conhecimento e a aceitabilidade das mães relativamente a intervenções parentais baseadas na parentalidade mindful e as suas preferências acerca das principais características dessas intervenções; e 2) um ensaio clínico aleatorizado piloto, que procurou avaliar a viabilidade do Mindful Moment, em termos de adesão, desistências, e padrão de uso do programa (e.g., número de módulos completados), avaliar a sua aceitabilidade, e evidência preliminar de eficácia em termos de resultado primário (i.e., stress parental) e resultados secundários (e.g., parentalidade mindful).

As amostras dos estudos empíricos foram recolhidas através de questionários online, e foram constituídas por mães de bebés entre os zero e os 18 meses. Em todos os estudos as participantes preencheram fichas de dados sociodemográficos e clínicos, e questionários de autorresposta avaliando variáveis relacionadas com a parentalidade (e.g., parentalidade mindful), processos de regulação emocional (e.g., autocompaixão) e funcionamento psicológico (e.g., sintomatologia depressiva). Especificamente no Estudo Empírico II, III, e IV as participantes responderam ainda a questões relacionadas com a pandemia de COVID-19; no Estudo Empírico V a questões relacionadas com a procura de ajuda, aceitabilidade e preferências relativamente a intervenções parentais baseadas na parentalidade mindful; e no Estudo Empírico VI a questões acerca da viabilidade, aceitabilidade e usabilidade do Mindful Moment.

Resultados

Em primeiro lugar, os resultados encontrados na revisão sistemática da literatura permitem concluir que não existem evidências suficientes acerca da eficácia e efetividade das intervenções

incluídas nos estudos, realçando a necessidade de serem desenvolvidos estudos futuros com metodologias de investigação mais robustas. Além disso, esta revisão identificou apenas sete intervenções diferentes, em formato presencial e grupal, o que sugere a escassez destas intervenções aplicadas ao período pós-parto e a necessidade de desenvolvimento de novas intervenções neste contexto. A síntese narrativa e compreensiva dos principais tipos e características das intervenções e das estratégias terapêuticas utilizadas em cada intervenção, permitiu reunir algumas linhas orientadores para a prática clínica futura (Fase I).

Segundo, os resultados salientam o papel do stress parental e da sintomatologia ansiosa enquanto mecanismos adversos para o funcionamento parental, dificultando a adoção de uma parentalidade mindful. O stress parental revelou-se ainda um mecanismo adverso para o estabelecimento da ligação mãe-bebé. Para além disso, a própria parentalidade mindful mostrou ser um mecanismo a ter em conta no estabelecimento da ligação mãe-bebé. Os resultados dos estudos desenvolvidos sugerem também que a sintomatologia depressiva e ansiosa da mãe e uma perceção do temperamento do bebé como difícil têm um efeito adverso na parentalidade mindful, ao contrário da autocompaixão materna, que parece ter efeitos benéficos quer na parentalidade mindful, como no estabelecimento da ligação mãe-bebé. Adicionalmente, os resultados permitem concluir que durante um período de restrições mais elevadas relacionadas com a pandemia, as mães apresentaram níveis mais elevados de sintomas depressivos, mais dificuldade em adotar uma parentalidade mindful, em estabelecer uma ligação mãe-bebé mais funcional e em ser autocompassivas (Fase II).

Por fim, os resultados suportam a aceitabilidade das mães relativamente a intervenções parentais baseadas na parentalidade mindful e providenciam algumas pistas sobre as características e conteúdos a considerar no desenvolvimento futuro deste tipo de intervenções. Os resultados sugerem ainda que o Mindful Moment é um programa viável e aceitável para mães que se encontrem a experienciar stress parental no período pós-parto, e fornecem provas preliminares da eficácia deste programa na diminuição do stress parental, mas também na promoção do mindfulness disposicional e de uma perceção materna do temperamento do bebé como menos difícil (Fase III).

Conclusões

Em suma, os resultados deste trabalho de investigação disponibilizam conhecimento baseado na evidência sobre o importante papel da parentalidade mindful e compassiva no período pós-parto, especialmente em mães que experienciam stress parental. Enfatiza também a necessidade de intervir com as mães durante este período específico do ciclo de vida,

demonstrando que as intervenções online autoguiadas poderão ser uma alternativa promissora às intervenções presenciais tradicionais.

Palavras-chave

Parentalidade mindful; parentalidade compassiva; período pós-parto; stress parental; intervenções online; ensaio clínico aleatorizado piloto; Mindful Moment

Abstract

Introduction

Although the period after childbirth may be perceived by many parents and mothers as a gratifying and satisfying time, it is also a challenging period, often leading parents, especially mothers, to experience high levels of parenting stress. Parenting stress has been associated with several negative consequences for mother-infant relationship and for child's development and parenting. Previous research suggested that even mothers who do not experience high levels of parenting stress often find it difficult to adjust to the parental role. Thus, the development of psychological interventions that help mothers to adjust to the postpartum period while developing positive parenting skills is needed. In this context, mindful and compassionate parenting interventions may have an important role in helping mothers regulate their parenting stress, as well as promote more positive and secure relationships with their infants. The recent COVID-19 pandemic, especially during the first waves, has made it difficult the development of face-to-face and group interventions, which has led to a greater investment in e-health interventions for mental health promotion (e-mental health), particularly useful in a pandemic context, given its accessibility and flexibility. The *Mindful Moment* – a mindful and compassionate parenting program, web-based and self-guided – appeared in this context with the aim of providing to mothers with moderate/high levels of parenting stress, in the postpartum period, a psychological intervention that, in other way (i.e., in person and in a group), it would not be accessible given the pandemic-related restrictions. The Mindful Moment is constituted by six modules, and it is focused on the parental relationship and on the promotion of protective psychological resources (mindfulness and self-compassion).

The present research was developed based on three general objectives: (1) to systematically evaluate the effect of mindful and compassionate parenting interventions applied in the early years of the child, including the postpartum period, in the promotion of positive parenting skills and improvement of quality of parental caregiving (Phase I); (2) to explore and understand mothers' emotional experience in the postpartum period, as well as the different factors and mechanisms associated with the adoption of mindful and compassionate parenting, before and during the COVID-19 pandemic (Phase II); and (3) to develop, implement, and evaluate Mindful Moment, in a sample of postpartum mothers with moderate or high levels of parenting stress (Phase III).

Methodology

The present research comprised three phases associated with objectives previously presented.

Phase I consisted in the development of a systematic review, which included empirical studies of mindful and compassionate parenting interventions applied in the first years of the child, including the postpartum period, which aimed to promote positive parenting skills and improve quality of parental caregiving.

Phase II involved the development of four empirical studies, three with a cross-sectional design and one with a longitudinal design, which aimed to explore and understand mothers' emotional experience in the postpartum period, as well as the different factors and mechanisms associated with the adoption of mindful and compassionate parenting.

Phase III comprised the development of two empirical studies: 1) one study focused on understanding the mothers' help-seeking behaviours and perceived barriers, while also exploring mothers' knowledge and acceptability of mindful parenting interventions and their preferences regarding the main characteristics of said interventions; and 2) a pilot randomized controlled trial that aimed to assess the feasibility of Mindful Moment program in terms of adherence, dropouts, and pattern of program usage (e.g., number of modules completed), to evaluate its acceptability while assessing preliminary evidence of the program's efficacy in terms of primary outcome (i.e., parenting stress) and secondary outcomes (e.g., mindful parenting).

The samples were collected through online surveys and included mothers of infants aged between zero and 18 months old. In all studies, participants completed sociodemographic and clinical data forms and self-reported questionnaires assessing variables related to parenting (e.g., mindful parenting), emotional regulation processes (e.g., self-compassion), and psychological functioning (e.g., depressive symptoms). Specifically, in Empirical Studies II, III, IV they answered questions related to the COVID-19 pandemic; in Empirical Study V they answered questions related to help-seeking, acceptability, and preferences regarding mindful parenting-based interventions; lastly, in Empirical Study VI they answered questions about the feasibility, usability, and acceptability of the Mindful Moment.

Results

Firstly, there is insufficient evidence on the efficacy and effectiveness of the interventions included in the studies of the systematic review, highlighting the need of developing future studies with more robust research methodologies. In addition, this review identified seven different interventions, in group and face-to-face formats, which suggests the scarcity of these interventions applied to the postpartum period and the need of developing new interventions in

this context. Also, the narrative and comprehensive synthesis of the main types and characteristics of the interventions and therapeutic strategies used in each intervention, allowed to gather some guidelines for future clinical practice (Phase I).

Second, the results revealed that parenting stress and anxious symptoms were identified as adverse mechanisms for parental functioning, preventing the adoption of a mindful parenting approach. Parenting stress was also an adverse mechanism for the establishment of mother-infant bonding. In addition, mindful parenting itself seemed to be a mechanism to consider in the establishment of mother-infant bonding. Our results also indicated that maternal depressive and anxious symptoms and a difficult perception of the infant's temperament have an adverse effect on mindful parenting, in contrast to maternal self-compassion, which seems to have beneficial effects on both mindful parenting and mother-infant bonding. Moreover, our results indicated that during a period of major pandemic-related restrictions mothers had higher levels of depressive symptoms, increased difficulty in adopting a mindful approach to parenting, in establishing a less impaired mother-infant bonding, and in being self-compassionate (Phase II).

Finally, the results support mothers' acceptability of mindful parenting interventions, and provide some clues regarding characteristics and content to be considered in future development of such interventions. The results also showed that Mindful Moment is a feasible and acceptable program for postpartum mothers experiencing parenting stress, providing preliminary evidence of the efficacy of this program in decreasing parenting stress, but also in promoting mothers' dispositional mindfulness and their perception of the infant's temperament as less difficult.

Conclusions

In sum, the results of this research provide evidence-based knowledge regarding the important role of mindful and compassionate parenting in the postpartum period, especially in mothers experiencing parenting stress. It also emphasizes the need to intervene with mothers during this specific period, indicating that web-based and self-guided interventions may be a promising alternative of traditional face-to-face interventions.

Keywords

Mindful parenting; compassionate parenting; postpartum period; parenting stress; web-based interventions; pilot randomized controlled trial; Mindful Moment

Nota Introdutória

A transição para a maternidade é geralmente um período exigente, trazendo consigo inúmeras mudanças a nível pessoal e interpessoal, com impacto psicológico, emocional e físico na vida das mães. Os diversos reajustamentos emocionais, comportamentais e cognitivos necessários nesta fase podem ter interferência na saúde mental materna, conduzindo, muitas vezes, à experiência de stress parental. Mesmo as mães que não experienciam níveis elevados de stress parental enfrentam inúmeros desafios e preocupações que as podem colocar numa posição vulnerável. Especificamente, no período pós-parto, a literatura científica tem demostrado que o stress parental pode dificultar o estabelecimento de uma relação mãe-bebé segura e positiva e poderá ter repercussões negativas no desenvolvimento futuro da criança e parentalidade. Torna-se, então, necessário focar a atenção nesta população, e ajudar as mães a adaptar-se de forma adequada ao período pós-parto e a desenvolver competências parentais positivas, nomeadamente através do desenvolvimento de intervenções psicológicas. No entanto, as intervenções psicológicas existentes aplicadas no período pós-parto focam-se, essencialmente, na mãe e na sua psicopatologia, não considerando a relação mãe-bebé e não promovendo competências parentais que ajudem as mães, no presente e no futuro, a regular as suas emoções na relação com os filhos. As intervenções parentais baseadas na parentalidade mindful e compassiva têm-se revelado eficazes quer na promoção da saúde mental dos pais, como no desenvolvimento e melhoria de competências parentais e consequente melhoria da relação pais-filhos. Contudo, em Portugal, apesar da crescente investigação nesta área, não existem estudos que apliquem estas intervenções no período pós-parto.

Atualmente, para além das barreiras percebidas na procura de ajuda profissional enfrentadas pelas mães no período pós-parto (e.g., não ter tempo para participar numa intervenção psicológica, custos associados à intervenção), as mães são obrigadas a lidar com uma pandemia. O contexto pandémico despoletou a necessidade de procurar alternativas de intervenção em saúde mental, em particular com esta população. Assim, nos últimos tempos houve um investimento em intervenções *e-health* para a promoção da saúde mental (*e-mental health*), particularmente úteis num contexto pandémico, dada a sua acessibilidade, flexibilidade e baixos custos associados.

No sentido de ultrapassar as lacunas presentes na literatura e prática clínica e os desafios atuais, procurámos nesta investigação contribuir com conhecimento baseado na evidência, avaliando, sistematicamente, o efeito das intervenções parentais baseadas na parentalidade mindful e compassiva, aplicadas nos primeiros anos de vida da criança, incluindo o período pós-

parto; compreender a experiência emocional das mães no período pós-parto, assim como os diferentes fatores e mecanismos-chave associados à adoção de uma parentalidade mindful e compassiva, antes e durante a pandemia de COVID-19; e desenvolver uma intervenção online, o Mindful Moment, destinada a mães com níveis moderados ou elevados de stress parental. O Mindful Moment foca-se na relação parental e na promoção de recursos psicológicos protetores, tais como o mindfulness e a autocompaixão, e tem como principal objetivo diminuir os níveis de stress parental nas mães e promover uma abordagem mindful e compassiva no exercício da sua parentalidade.

Tendo em conta a importância do período pós-parto para a mãe e para o bebé (sendo, por excelência, o período inicial de importantes interações mútuas entre ambos), os múltiplos desafios desta etapa, e a ausência de programas de intervenção focados no desenvolvimento de uma parentalidade mindful e compassiva, online e em Portugal, este trabalho de investigação e, em particular, o Mindful Moment, mostram-se necessários e inovadores.

O trabalho de investigação apresentado na presente dissertação foi desenvolvido no âmbito do grupo de investigação *Relações, Desenvolvimento & Saúde* do Centro de Investigação em Neuropsicologia e Intervenção Cognitivo-Comportamental (Unidade de Investigação & Desenvolvimento da Fundação para a Ciência e a Tecnologia) da Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra.

A presente dissertação é constituída por cinco capítulos, descritos sucintamente de seguida.

O Capítulo I | **Enquadramento Teórico** apresenta uma revisão da literatura internacional e nacional sobre a parentalidade no período pós-parto. Após uma breve contextualização sobre o período pós-parto e os desafios associados, focamos a nossa revisão na saúde mental materna, focando de forma particular o stress parental e a forma como este se associa a resultados na relação mãe-bebé, desenvolvimento da criança e parentalidade. De seguida, o foco deste capítulo recai sobre o papel da regulação emocional na parentalidade e, em especial, o papel do mindfulness e da compaixão. Posteriormente, são apresentados estudos relacionados com a parentalidade mindful e os programas de intervenção parentais baseados na parentalidade mindful e compassiva, incluindo os que são aplicados no período pós-parto. São depois explorados os comportamentos de procura de ajuda e as respetivas barreiras percebidas durante este período. Por fim, este capítulo foca-se na abordagem *e-mental health*, assim como no programa de intervenção online, autoguiado, desenvolvido no presente trabalho de investigação – o

Mindful Moment. Este capítulo introdutório termina com um resumo das lacunas na literatura atual, as limitações dos estudos existentes e os desafios atuais, particularmente associados à pandemia de COVID-19.

Este enquadramento teórico pretende, assim, promover uma melhor compreensão das temáticas em estudo e a formulação dos objetivos da presente investigação.

O Capítulo II | **Objetivos e Metodologia da Investigação** apresenta a caracterização geral da investigação, em termos dos seus objetivos (gerais e específicos) e das diferentes opções metodológicas, nomeadamente, o desenho de investigação, os procedimentos e participantes, as variáveis e instrumentos de avaliação, e opções estatísticas. Por fim, é apresentada também uma breve reflexão sobre os princípios éticos que guiaram a conceptualização, a operacionalização e a implementação da presente investigação. O presente trabalho de investigação envolveu três fases: (I) uma revisão sistemática da literatura focada em intervenções parentais baseadas na parentalidade mindful e compassiva, aplicadas nos primeiros anos de vida da criança, incluindo o período pós-parto; (II) o estudo da experiência emocional materna no período pós-parto, assim como dos diferentes fatores e mecanismos-chave associados à adoção de uma parentalidade mindful e compassiva, antes e durante a pandemia de COVID-19; e (III) o desenvolvimento, implementação e avaliação do Mindful Moment.

O Capítulo III | **O Mindful Moment** engloba uma descrição detalhada do programa de intervenção desenvolvido neste trabalho de investigação - um programa de parentalidade mindful e compassiva, online e autoguiado, destinado a mães com níveis moderados ou elevados de stress parental, no período pós-parto.

O Capítulo IV | **Revisão Sistemática da Literatura e Estudos Empíricos** inclui uma revisão sistemática da literatura e seis estudos originais apresentados sob a forma de artigos científicos. Cinco deles encontram-se publicados (estudos empíricos I, II, III, IV e V) e um submetido para publicação (estudo empírico VI), em revistas científicas internacionais com revisão de pares. Note-se que neste capítulo apresentamos os artigos de acordo com as normas de cada revista científica, mas sem a formatação final da publicação de cada revista.

A Revisão Sistemática da Literatura corresponde à fase de investigação I deste trabalho.

Esta revisão sistemática, com o título *Mindfulness- and compassion-based parenting interventions applied to the postpartum period: A systematic review*, procurou avaliar, sistematicamente, o efeito das intervenções parentais baseadas na parentalidade mindful e

compassiva, aplicadas nos primeiros anos de vida da criança, incluindo o período pós-parto, na promoção de competências parentais positivas e na melhoria da qualidade dos cuidados parentais.

Os estudos empíricos I ao IV integram a fase de investigação II deste trabalho.

O Estudo Empírico I, intitulado *The mediating role of parenting stress in the relationship between anxious and depressive symptomatology, mothers' perception of infant temperament, and mindful parenting during the postpartum period*, procurou explorar se a sintomatologia depressiva e ansiosa das mães e a sua perceção do temperamento do bebé se encontram associadas às diferentes dimensões da parentalidade mindful, e se esta relação é mediada pelo stress parental.

O Estudo Empírico II, com o título *Postpartum during COVID-19 pandemic: Portuguese mothers' mental health, mindful parenting and mother-infant bonding*, procurou explorar a contribuição de variáveis relacionadas com a pandemia, saúde mental materna e parentalidade mindful na explicação da ligação mãe-bebé, durante a primeira vaga da pandemia em Portugal.

O Estudo Empírico III, intitulado *The role of mothers' self-compassion on mother–infant bonding during the COVID-19 pandemic: A longitudinal study exploring the mediating role of mindful parenting and parenting stress in the postpartum period*, pretendeu explorar, longitudinalmente, a associação entre a autocompaixão e a ligação mãe-bebé, e se esta relação é mediada pela parentalidade mindful e pelo stress parental, durante a primeira vaga da pandemia em Portugal.

Por fim, o Estudo Empírico IV, intitulado *Self-compassion and mindful parenting among postpartum mothers during the COVID-19 pandemic: The role of depressive and anxious symptoms*, pretendeu explorar se a autocompaixão das mães está associada à parentalidade mindful, e se a esta relação é mediada pela sintomatologia depressiva e ansiosa, durante a terceira vaga da pandemia em Portugal.

Os estudos empíricos V e VI integram a fase de investigação III deste trabalho.

O Estudo Empírico V, intitulado *Mindful parenting interventions for the postpartum period: Acceptance and preferences of mothers with and without depressive symptoms*, procurou explorar os comportamentos de procura de ajuda e as respetivas barreiras percebidas, de mães portuguesas que se encontram no período pós-parto, e a sua aceitabilidade e preferências relativamente a intervenções parentais baseadas na parentalidade mindful.

O Estudo Empírico VI, com o título *A web-based, mindful, and compassionate parenting training for mothers experiencing parenting stress: Results from a pilot randomized controlled trial of the Mindful Moment program*, procurou avaliar a viabilidade, aceitabilidade e evidência preliminar de eficácia do Mindful Moment.

Por fim, o Capítulo V | **Síntese e Discussão dos Resultados** oferece um breve resumo e discussão dos principais resultados obtidos neste trabalho de investigação. Primeiro, os principais resultados obtidos são descritos sucintamente e posteriormente discutidos, sendo integrados entre si e contextualizados na literatura científica já existente. Neste capítulo, é também apresentada uma avaliação crítica global do trabalho elaborado, baseada numa reflexão sobre os seus principais pontos fortes e limitações. Por fim, são discutidas as contribuições decorrentes dos resultados obtidos para a investigação futura e, particularmente, as suas implicações para a prática clínica e para as políticas de saúde, em termos dos cuidados direcionados para a parentalidade no período pós-parto.

Capítulo I | Enquadramento Teórico

1. Transição para a maternidade e saúde mental materna: O período pós-parto

A transição para a maternidade tem sido perspetivada como uma transição desenvolvimental, que implica mudanças e reorganizações individuais (e.g., mudanças físicas associadas à gravidez e pós-parto, mudanças emocionais), conjugais (e.g., alterações na dinâmica conjugal), sociais (e.g., redução do contacto com o grupo de amigos), profissionais (e.g., conciliação da maternidade com a vida profissional) e económicas (e.g., reorganização financeira), que têm impacto a nível físico, psicológico e emocional na vida da mulher, do casal e da família. Esta é vivida pela maioria das mulheres e dos casais como uma fase do ciclo de vida satisfatória e feliz, contudo, também pode ser experienciada como um período de crise (Canavarro, 2009).

O *período pós-parto* (i.e., período que se segue ao nascimento de um bebé) tem-se revelado um período particularmente desafiante. A definição da sua duração não é unânime na literatura científica, com alguns autores a indicarem que este corresponde ao período até seis semanas após o parto, e outros a referirem que podem ser considerados os primeiros 12 meses após o nascimento do bebé, devido à necessidade da mulher, continuamente, aprender novas competências e comportamentos relacionados com as tarefas de prestação de cuidados ao bebé, ao longo desse período (Monteiro et al., 2022).

No presente trabalho, consideramos o pós-parto como o período correspondente aos primeiros 18 meses após o nascimento do bebé, na medida em que os desafios psicológicos associados a este período se prolongam muitas vezes para além dos primeiros 12 meses após o parto (Brassel et al., 2020; Pellowski et al., 2019), tornando-se, então, crucial considerar um período mais alargado (Goodman, 2004).

O período pós-parto é pautado por inúmeros desafios físicos, tais como alterações físicas e alterações hormonais na mulher, privação de sono e fadiga (e.g., Caçador & Moreira, 2021; Kudo et al., 2014), mas também inúmeros reajustamentos emocionais, comportamentais e cognitivos. Estes reajustamentos estão maioritariamente relacionados com a necessidade de desempenho de um (novo) papel (i.e., o papel parental), que comporta desafios para a regulação emocional da mãe e exige a aquisição de competências para a prestação de cuidados ao bebé (Grande et al., 2021). A ideia de que a mulher está automaticamente preparada para a maternidade e para responder a todos os desafios inerentes ao papel de mãe está longe de corresponder à realidade; ao invés disso, a maternidade é definida como um processo social e cognitivo complexo, aprendido e não intuitivo, no qual as competências parentais vão sendo adquiridas e otimizadas ao longo do tempo (Luís, 2016).

De acordo com a literatura científica, de um modo geral, o pós-parto constitui-se um período de maior vulnerabilidade para o desenvolvimento de dificuldades emocionais acrescidas, e sintomatologia psicopatológica, especialmente nas mães (Figueiredo, 2005; Vismara et al., 2016).

Os estudos prévios realizados são consistentes no que respeita à associação entre a saúde mental materna no período pós-parto e resultados na relação mãe-bebé, desenvolvimento do bebé, e práticas parentais adotadas. Entre os sintomas psicopatológicos mais comummente associados ao período pós-parto destacam-se os *sintomas depressivos* e *sintomas ansiosos*. Diversos estudos têm demonstrado que as mães que apresentam sintomatologia depressiva tendem a ser menos sensíveis (Nath et al., 2019) e responsivas às necessidades dos seus bebés, e a adotar comportamentos parentais mais negativos (Lovejoy et al., 2000). Além disso, a sintomatologia depressiva materna está também associada ao desenvolvimento de problemas internalizantes futuros na criança, nomeadamente através da adoção de práticas parentais hostis (Hentges et al., 2021). De igual modo, mães que apresentam sintomatologia ansiosa estabelecem, geralmente, uma ligação emocional com os seus bebés mais disfuncional (Fallon et al., 2021; Tietz et al., 2014). A sintomatologia ansiosa materna está também associada a uma menor capacidade de regulação emocional no bebé (Provenzi et al., 2021) e a resultados adversos futuros na criança, nomeadamente a atrasos no desenvolvimento mental (Ali et al., 2013), na comunicação, competências motoras, resolução de problemas, e no estabelecimento de relações sociais (Mughal et al., 2018). Mães que apresentam sintomatologia ansiosa tendem ainda a adotar comportamentos parentais mais negativos (Crugnola et al., 2016).

Em Portugal, a literatura sobre saúde mental materna no período pós-parto tem vindo a crescer ao longo dos últimos anos, reforçando os resultados obtidos na literatura internacional, indicando que, durante este período, a sintomatologia depressiva das mães está associada a menor responsividade materna, a repercussões negativas no comportamento social do bebé (Gonçalves, 2008) e a mais problemas de sono no bebé (Dias & Figueiredo, 2020). As mães que apresentam este tipo de sintomatologia tendem a avaliar os seus bebés como difíceis (Costa, 2012), e a sentir mais dificuldade em estabelecer uma ligação emocional com eles (Figueiredo et al., 2009). Além disso, quer a sintomatologia depressiva como a sintomatologia ansiosa têm revelado ter um impacto significativo no comportamento parental, assim como estar associadas à adoção de uma abordagem menos mindful ou consciente na parentalidade (Caçador & Moreira, 2021; Nobre-Trindade et al., 2021).

Para além da sintomatologia psicopatológica previamente apresentada, a literatura científica tem também demonstrado que os desafios que caracterizam o período pós-parto

parecem aumentar a probabilidade de as mães experienciarem stress parental (Grande et al., 2021).

1.1. O caso particular do stress parental

A experiência de *stress* acontece quando um indivíduo avalia que determinada situação contém exigências significativas para o seu bem-estar, e que não dispõe dos recursos necessários para responder a essas exigências. A resposta de stress acontece como uma consequência dessa avaliação e, sendo uma resposta afetiva, compreende componentes comportamentais, cognitivos e emocionais (Patnaik, 2014). Por sua vez, o stress experienciado no contexto da parentalidade, i.e., o *stress parental*, é definido como uma reação psicológica e fisiológica aversiva, que surge nas diversas tentativas de adaptação aos desafios e exigências da parentalidade (Lazarus & Folkman, 1986). Habitualmente, essa reação reflete-se em sentimentos negativos relacionados com o próprio no papel parental, acerca da criança e da relação mãe/pai-criança (Abidin, 1995). Assim, quando os pais ou mães avaliam os seus recursos (e.g., conhecimento, competências parentais, suporte social) como insuficientes para responder às exigências da parentalidade com sucesso (Deater-Deckard, 2004), tendem a experienciar stress parental. De acordo com Abidin (1992), quando os níveis de stress parental são baixos ou pontuais, este constitui-se como uma variável motivacional para os pais, facilitando a utilização dos recursos disponíveis para o desempenho do seu papel parental. No entanto, níveis de stress parental mais elevados são suscetíveis de comprometer a qualidade da parentalidade que, por sua vez, pode ter consequências negativas no desenvolvimento da criança (Abidin, 1992).

Embora a literatura científica tenha apontado alguns fatores de risco para o desenvolvimento de stress parental (e.g., baixas habilitações académicas [Luís, 2016], níveis superiores de sintomatologia depressiva e ansiosa na gravidez [Misri et al., 2010], maior número de problemas de desenvolvimento do bebé [Chen et al., 2010]), todos os pais e mães experienciam algum nível de stress no exercício da sua parentalidade. Apesar do stress fazer parte do papel de pai ou mãe, o seu efeito negativo pode acumular-se e influenciar a qualidade do funcionamento familiar e da relação entre os pais e a criança (Deater-Deckard & Scarr, 1996). A intensidade do stress parental experienciado varia em função da perceção que as mães e os pais têm acerca dos recursos disponíveis para cumprir as exigências que o papel parental implica (Deater-Deckard, 1998), e pode ser influenciado pela interação entre diversas variáveis relacionadas com os pais, a criança e o meio em que ambos estão inseridos (Abidin, 1992). Especificamente no período pós-parto, é muito comum que as novas tarefas e mudanças levem os pais e, em especial, as mães (Canelas, 2019), a percecionar os seus recursos como insuficientes

para responder às necessidades do bebé e às tarefas inerentes ao seu papel parental (Vieira & Reis, 2017).

O stress parental tem sido considerado um fator importante nas interações estabelecidas entre a mãe e o bebé, no desenvolvimento da criança e nas práticas parentais adotadas. A literatura científica tem demonstrado, de forma consistente, uma associação positiva entre o stress parental e uma menor sensibilidade (Dau et al., 2019) e responsividade maternas (Mills-Koonce et al., 2011; Ward & Lee, 2020). Recentemente, a associação entre o stress parental e a ligação mãe-bebé foi alvo de investigação por diversos estudos. A *ligação mãe-bebé*, o processo através do qual uma mãe forma uma relação de afeto com o seu bebé (Myers, 1984), tem um forte impacto no desenvolvimento social e emocional da criança e na relação mãe-bebé a longo prazo (Lehnig et al., 2019). Este processo, habitualmente descrito como "apaixonar-se pelo bebé", assegura que a mãe reúne esforços para responder às suas necessidades (Reck et al., 2016). No entanto, a experiência de stress parental no período pós-parto interfere com o estabelecimento desta ligação emocional, estando associada ao desenvolvimento de uma ligação mãe-bebé mais disfuncional (Biaggi et al., 2021; Khoramirad et al., 2020).

Além disso, a experiência de stress parental no período pós-parto está também associada a um *temperamento do bebé* mais difícil, *percecionado pela mãe* (Kwon et al., 2006; McBride et al., 2002; Oddi et al., 2013). A perceção que a mãe tem do temperamento do seu bebé é considerada na literatura como uma variável importante com impacto no funcionamento parental. O temperamento do bebé é definido como a competência do bebé para se adaptar confortavelmente aos desafios e exigências de cada situação e adaptar o seu comportamento de forma flexível (DelCarmen-Wiggins & Carter, 2004), podendo explicar as diferenças individuais dos bebés relativamente às suas respostas emocionais e comportamentais a estímulos internos e externos (Stifter & Wiggins, 2004). Quando um bebé tem um temperamento difícil, habitualmente é um bebé agitado, que chora durante longos períodos de tempo ou exige muito tempo até regular o seu afeto negativo, comportamentos esses que podem ter um impacto negativo na relação mãe-bebé (Stifter & Wiggins, 2004), e aumentar a dificuldade da mãe para lhe prestar cuidados (Zheng et al., 2018) e ser sensível nas interações que estabelece com ele (Putnam et al., 2002).

No que respeita ao desenvolvimento do bebé, os estudos têm demonstrado que o stress parental está associado a indicadores mais pobres de desenvolvimento do bebé, tais como excesso de peso no bebé e na criança (e.g., Leppert et al., 2018), sendo considerado um fator de risco para o desenvolvimento de psicopatologia infantil (e.g., problemas emocionais e comportamentais; Fredriksen et al., 2019; Hattangadi et al., 2020).

Além disso, o stress parental tem sido considerado um fator determinante do comportamento parental, estando a sua experiência associada a uma parentalidade mais disfuncional (Abidin, 1992). De um modo geral, sob elevados níveis de stress, os pais ficam menos disponíveis para prestar atenção às necessidades atuais da criança, tendem a reagir automaticamente (Bögels & Restifo, 2014) e a percecionar o comportamento da criança de forma mais negativa (Hattangadi et al., 2020). Ademais, tendem a exibir padrões negativos de interação na relação parental, adotando comportamentos mais hostis e intrusivos (Stack et al., 2012), menos calorosos (Azhari et al., 2020), e tendo mais dificuldade em definir limites e a impor disciplina (Spinelli et al., 2020). Assim, o stress parental tem sido negativamente associado à adoção de uma abordagem consciente ou mindful na parentalidade (Bögels & Restifo, 2014).

No período pós-parto, tem sido também demonstrado o impacto negativo do stress parental nas práticas parentais adotadas. Alguns estudos indicam que o stress parental pode interferir negativamente na adoção de uma parentalidade sensível (Booth et al., 2018), aumentando a probabilidade de pior qualidade dos cuidados parentais (Missler et al., 2020), constituindo-se como um fator de risco para a adoção de comportamentos parentais negativos (Dau et al., 2019; Le et al., 2017).

A capacidade de equilibrar os desafios parentais durante situações stressantes pode reduzir o impacto negativo do stress parental nas relações parentais (Christian, 2021). A literatura científica prévia, sugere que a capacidade das mães regularem as suas emoções pode ajudá-las a lidar com o seu stress parental (Grande et al., 2021), o que irá ter implicações na sua saúde emocional, assim como na saúde do seu bebé (Morris et al., 2017). Uma vez que a literatura é extensa e consensual no que respeita à associação entre o stress parental e os inúmeros resultados negativos na relação mãe-bebé, no desenvolvimento do bebé e práticas parentais, e que a capacidade de autorregulação emocional das mães está diretamente associada à capacidade de autorregulação do bebé, é de extrema importância promover a capacidade das mães regularem as suas respostas ao stress, enquanto permanecem sensíveis às emoções do bebé. Neste contexto, têm sido estudados dois recursos psicológicos protetores, que poderão ser promovidos com treino e prática, e que poderão ajudar as mães a lidar com as suas emoções e a responder de forma adaptativa ao stress parental – o mindfulness e a compaixão (Rutherford et al., 2015).

2. O papel da regulação emocional na parentalidade: O mindfulness e a compaixão

A regulação emocional diz respeito a um conjunto de processos que permitem a monitorização, avaliação e modificação da resposta emocional (Thompson, 1991). De acordo com Gratz e Roemer (2004), esta pode ser definida como a capacidade de um indivíduo identificar, compreender e aceitar as experiências emocionais, controlar comportamentos impulsivos quando se encontra sob stress, e modular as respostas emocionais de forma flexível e apropriada à situação que se encontra a experienciar. Uma regulação emocional adaptativa desempenha um papel fundamental no funcionamento psicológico e nas relações interpessoais, uma vez que permite ao indivíduo adotar um reportório alargado de respostas emocionais, adaptativas e adequadas ao seu contexto atual, incluindo em situações de stress (Bariola et al., 2011; Gross, 2014).

No contexto da parentalidade, e especificamente no período pós-parto, a evidência científica comprova que mães que apresentam menos competências de regulação emocional (e.g., mais dificuldades de regulação emocional, menores níveis de autocompaixão), apresentam níveis mais elevados de sintomas depressivos e ansiosos (Fonseca et al., 2019; Marques et al., 2018). No mesmo sentido, mães com dificuldades de regulação emocional apresentam interações mais pobres com os seus bebés (Stone, 2020) e cuidados maternos menos sensíveis (Grande et al., 2021). De forma complementar, alguns estudos mostram que mães com maior capacidade de regulação emocional tendem a adotar comportamentos parentais mais positivos, o que aumenta a probabilidade da criança ter igualmente uma boa capacidade de regulação emocional e menos problemas de desenvolvimento (e.g., problemas internalizantes; e.g., Zimmer-Gembeck et al., 2021). Assim, no período pós-parto, a regulação emocional pode ser considerada um denominador comum do funcionamento psicológico materno, relação mãe-bebé e parentalidade adaptativos, tornando-se essencial promover estratégias adaptativas que ajudem as mães a lidar com as suas emoções, em particular quando experienciam stress parental, através de determinadas competências psicológicas, tais como o mindfulness e a compaixão.

O conceito de *mindfulness* tem raízes no Budismo e, traduzido para português, poderá denominar-se por "atenção plena". O mindfulness é definido por Kabat-Zinn (1994) como "a capacidade de prestar atenção de uma forma particular: intencionalmente, no momento presente e sem julgamento" (p. 4) e pode ser considerado uma variável disposicional (i.e., *mindfulness disposicional*, ou seja, um traço mental ou característica estável de personalidade, que pode variar entre e dentro dos indivíduos ao longo do tempo), ou como uma competência que pode ser

desenvolvida através da prática de meditação (Bishop et al., 2004; Chambers et al., 2009). Recentemente, foi desenvolvida uma revisão sistemática da literatura, que procurou identificar de que forma o mindfulness tem sido operacionalizado na literatura científica, e que pretendeu caracterizar a relação entre o mindfulness e o processo de regulação emocional. Esta revisão sugeriu que o mindfulness, tanto conceptualizado como mindfulness disposicional ou competência a ser praticada, está positivamente relacionado com a regulação emocional, ao facilitar a utilização de estratégias mais adaptativas (e.g., reavaliação cognitiva), ao diminuir o uso de estratégias disfuncionais (e.g., ruminação, supressão), e ao permitir ao indivíduo ser mais flexível na escolha das estratégias, uma vez que este se encontra mais focado no momento presente e isso lhe permite adotar, mais facilmente, uma atitude de abertura perante os desafios de diversos contextos (Peixoto & Gondim, 2020), incluindo o contexto parental.

De acordo com Gross and John (2003), é possível distinguir dois tipos de estratégias nos processos de regulação emocional: (i) estratégias de regulação emocional focadas nos antecedentes à resposta emocional e (ii) estratégias de regulação emocional focadas na resposta emocional. As primeiras estratégias focam-se no que ocorre antes das respostas emocionais, podendo ocorrer na seleção ou modificação da situação, na direção da atenção ou mudança cognitiva. Por sua vez, as segundas estratégias são utilizadas após a ativação das emoções, nas quais o indivíduo procura modular a resposta emocional, a nível experiencial, comportamental e fisiológico. Alguns autores têm descrito uma forma de regulação emocional, baseada no mindfulness, que implica a utilização dos dois tipos de estratégias anteriormente apresentadas: a *regulação emocional mindful* (Chambers et al., 2009).

Segundo Guendelman et al. (2017), a regulação emocional mindful implica uma variedade de processos de regulação emocional, envolvendo processos baseados na cognição, atenção e controlo cognitivo voluntário, monitorização consciente, funções regulatórias explícitas, e processos conduzidos pelo afeto, podendo ser treinada e modificada através da prática de meditação. De um modo geral, a regulação emocional mindful representa a capacidade de permanecer sempre conscientemente atento, independentemente da força ou magnitude de qualquer emoção que se experiencie. Ao não implicar quaisquer tentativas de reavaliação da situação nem a supressão da experiência emocional, permite ao indivíduo reconhecer, conscientemente, os pensamentos, emoções e sensações, em vez de lhes reagir (Chambers et al., 2009), o que se torna extremamente útil em situações geradoras de stress, nomeadamente stress parental (Grecucci et al., 2015).

Uma qualidade da mente interrelacionada com a regulação emocional mindful e com o mindfulness é a *compaixão* (Gilbert, 2019). De facto, o mindfulness está intrinsecamente relacionado com a (auto)compaixão, uma vez que diz respeito à capacidade de observar as

emoções e eventos mentais sem (auto)criticismo e com uma atitude compassiva. De acordo com Gilbert (2017), a palavra compaixão vem do latim *compati*, que significa "sofrer com". Embora o autor defenda que não existe uma definição única para compaixão, sugere que esta seja conceptualizada através de dois elementos, a coragem e a dedicação – por um lado, exige um grau de motivação, vontade, coragem e tolerância ao sofrimento, tanto de si próprio como do outro e, por outro, implica o alívio e prevenção do sofrimento e, por isso, a dedicação para adquirir as competências necessárias para aprender como aliviar e prevenir o sofrimento (Gilbert, 2019). À medida que o indivíduo pratica mindfulness, torna-se mais consciente das experiências de compaixão (Gilbert & Choden, 2014).

Por sua vez, a *autocompaixão* diz respeito a uma atitude calorosa e de aceitação perante o próprio sofrimento, e desejo de o aliviar, envolvendo três componentes bipolares básicos interrelacionados: a autobondade vs. autojulgamento, a humanidade comum vs. isolamento, e o mindfulness vs. sobreidentificação (Neff, 2003, 2009). A autobondade implica compreender as próprias dificuldades e ser gentil e caloroso perante o fracasso ou contratempos, ao invés de ser demasiado autocrítico e punitivo; a humanidade comum envolve percecionar as próprias experiências como parte da condição humana, uma experiência humana maior, ao invés de pessoais, isoladas e causadoras de vergonha; e o mindfulness envolve a consciência e a aceitação de pensamentos e sentimentos dolorosos, sem uma excessiva sobreidentificação com os mesmos (Neff et al., 2019). Assim, ter uma verdadeira atitude autocompassiva pressupõe desejar bem-estar ao eu, encorajá-lo a mudar, quando necessário, de forma calorosa, e a retificar padrões de comportamento disfuncionais e dolorosos (Neff, 2003).

A autocompaixão pode ser vista como uma estratégia de regulação emocional extremamente útil, em que os sentimentos e os pensamentos negativos não são evitados, mas sim encarados com uma consciência clara e compreensiva, e com um sentido de partilha comum da experiência (Neff & Germer, 2013). Do ponto de vista da Psicologia Evolucionária, a autocompaixão tem sido explicada tendo em conta o modelo dos três sistemas de regulação emocional, desenvolvido por Gilbert (Gilbert, 2009). Neste modelo, os três sistemas interagem entre si, de forma recíproca, mas cada um deles reage a sinais ou estímulos específicos: (1) o *sistema de ameaça-defesa* tem como função básica detetar estímulos de ameaça com rapidez e, consequentemente, acionar as respostas emocionais (e.g., ansiedade, raiva e aversão), cognitivas e comportamentais específicas (e.g., luta, fuga, submissão), com o objetivo de proteger o indivíduo (Gilbert, 2000, 2001); (2) o *sistema de procura de recursos* é um sistema ativador de comportamentos de procura e de aquisição, caracterizado por vitalidade, energia e *drive* (Gilbert & Tirch, 2009); e (3) o *sistema de afiliação*, *calor* e *soothing* corresponde a um sistema de calor-afeto que desativa as emoções defensivas (e.g., raiva) e comportamentos (e.g., fuga) ligados ao

sistema de ameaça-defesa, e ao sistema de procura de recursos. Para além disso, a função deste último sistema é conceder um sentimento de segurança, tranquilidade e ligação aos outros, e em relação ao eu (Gilbert, 1993, 2005), sendo um sistema fundamental na vivência da maternidade e no estabelecimento da relação mãe-bebé (Cree, 2010).

Segundo esta perspetiva (Psicologia Evolucionária), o mindfulness não é concebido para ativar qualquer um destes sistemas de regulação emocional, mas para desenvolver a capacidade de observar o eu; por outro lado, a compaixão é concebida para estimular o sistema de afiliação, calor e *soothing* que implica vinculação e ligação aos outros. Ou seja, receber compaixão dos outros ou de si mesmo, ajuda o indivíduo a sentir-se seguro e calmo, o que se torna extremamente útil em contextos de stress parental (Gilbert & Tirch, 2009). Além disso, e de acordo com Cree (2010), a Terapia Focada na Compaixão (TFC), ao estimular o sistema de afiliação, calor e *soothing*, permite a estimulação de produção de oxitocina. Esta hormona desempenha um papel fundamental na inibição do sistema de ameaça-defesa e promove a ligação mãe-bebé e uma vinculação segura entre ambos.

De um modo geral, no contexto da parentalidade, tem sido comprovado que ensinar competências de mindfulness e (auto)compaixão às mães pode promover estratégias de coping adaptativas para lidar com contextos de stress e desafios parentais, facilitando a adoção de uma parentalidade sensível e responsiva (Duncan & Bardacke, 2010).

De seguida, serão abordados os conceitos de mindfulness e compaixão no contexto da parentalidade.

2.1. O mindfulness e a compaixão no contexto da parentalidade

Como descrito anteriormente, no período pós-parto, a saúde mental da mãe, assim como as suas competências de regulação emocional, têm impacto na relação que esta estabelece com o seu bebé e no seu desenvolvimento psicológico, emocional e comportamental. Uma das formas através das quais as mães exercem a sua influência no funcionamento psicológico, emocional e comportamental dos filhos é através das práticas parentais que adotam, i.e., através das estratégias e técnicas comportamentais utilizadas, orientadas para objetivos, no exercício do seu papel parental (Lee et al., 2006).

Diversos estudos empíricos comprovam a associação entre o mindfulness e a autocompaixão e variáveis da relação pais-filhos e variáveis parentais. Por exemplo, um estudo desenvolvido por Parent et al. (2016), demonstrou que níveis mais elevados de mindfulness disposicional nos pais estão indiretamente associados a baixos níveis de práticas parentais negativas (e.g., parentalidade reativa e intrusiva, disciplina coerciva, e hostilidade), e níveis

elevados de práticas parentais positivas (e.g., reforço positivo, expressão de calor e afeto, comunicação baseada no suporte e apoio), através de níveis mais elevados de parentalidade mindful ou consciente. Recentemente, um estudo desenvolvido por Han et al. (2021) apresenta resultados no mesmo sentido, demonstrando ainda a associação destas variáveis (i.e., mindfulness disposicional e variáveis parentais) com o desenvolvimento de problemas comportamentais na criança – este estudo demonstrou que níveis mais elevados de mindfulness disposicional nos pais estão indiretamente associados a menores níveis de comportamentos internalizantes e externalizantes na criança, através da adoção de uma parentalidade mindful e práticas parentais positivas. De igual modo, diversos estudos indicam que níveis superiores de autocompaixão nos pais estão associados a níveis mais elevados de bem-estar parental (Psychogiou et al., 2016) e bem-estar nas crianças (Moreira et al., 2015), níveis inferiores de stress parental (Garcia et al., 2021), e níveis mais elevados de parentalidade mindful (Moreira et al., 2016; Nguyen et al., 2020). Um estudo desenvolvido por Gouveia et al. (2016), que investigou o papel do mindfulness disposicional e da autocompaixão na parentalidade, demonstrou que níveis elevados de mindfulness disposicional e autocompaixão nos pais parecem aumentar a probabilidade de estes adotarem uma abordagem mindful na parentalidade, o que, por sua vez, parece estar associado à adoção de estilos parentais mais adaptativos e à experiência de menores níveis de stress parental.

Contudo, todos os estudos anteriormente apresentados foram conduzidos com pais de crianças e/ou adolescentes. No período pós-parto, os estudos que pretendem explorar as relações entre estas variáveis são ainda escassos, especialmente no que respeita à associação entre estas variáveis e as práticas parentais adotadas e a relação mãe-bebé durante este período. Apesar disso, os resultados existentes são encorajadores, e sugerem que o mindfulness se encontra associado a menores níveis de stress parental nas mães, a uma ligação mãe-bebé mais funcional (Khoramirad et al., 2021), e menores níveis de sintomatologia depressiva e ansiosa maternas (Pope, 2020). Também a autocompaixão pode ser considerada uma estratégia de regulação emocional protetora no período pós-parto (Pedro et al., 2019) e pode influenciar a forma como as mães interagem com os seus bebés e a qualidade do vínculo que estabelecem com eles (Cree, 2010). Além disso, parece ter um impacto positivo na saúde mental das mães. Por exemplo, um estudo desenvolvido por Monteiro et al. (2019) e um estudo desenvolvido por Felder et al. (2016), ambos com amostras de mães no período pós-parto, indicaram que a autocompaixão está associada a menores níveis de sintomatologia depressiva e ansiosa maternas. Além disso, a autocompaixão parece aumentar a probabilidade das mães apresentarem níveis superiores de saúde mental positiva (Carona et al., 2022; Monteiro et al., 2020).

De um modo geral, a promoção de determinadas competências psicológicas nas mães (i.e., mindfulness e autocompaixão) parece ter impacto na experiência de stress parental, na relação mãe-bebé e nas práticas parentais adotadas, e estar fortemente relacionada com a adoção de uma parentalidade mindful ou parentalidade consciente.

2.2. A parentalidade mindful ou parentalidade consciente

O conceito de *parentalidade mindful* ou *parentalidade consciente* consiste numa das mais recentes aplicações do mindfulness à parentalidade. De um modo geral, a aplicação ao momento presente de uma consciência intencional e não ajuizadora, bem como a adoção de uma atitude compassiva na relação com os filhos, são as principais características da parentalidade mindful (Moreira & Canavarro, 2015).

Este conceito surgiu pela primeira vez há cerca de 20 anos com M. Kabat-Zinn e J. Kabat-Zinn (1997), mas apenas na última década a comunidade científica se interessou em estudar os seus efeitos na relação pais-filhos e na adaptação psicológica dos pais e das crianças. De facto, nos últimos anos tem havido um interesse crescente em incluir mindfulness nos programas de parentalidade, dado os seus benefícios para a saúde mental dos pais, relação mãe/pai-bebé e desenvolvimento da criança. O mindfulness permite aos pais aumentar a flexibilidade psicológica e reduzir a influência dos pensamentos e sentimentos negativos em relação ao comportamento dos filhos e, assim, diminuir a probabilidade de serem reativos, duros, ou impacientes quando confrontados com situações potencialmente stressoras (Kabat-Zinn & Kabat-Zinn, 1997). No entanto, no período pós-parto, a literatura científica é escassa, embora tenha vindo a crescer.

De um modo geral, a parentalidade mindful corresponde a um conjunto de práticas ou de competências parentais que estendem o conceito de mindfulness ao contexto das relações pais-filhos (Duncan et al., 2009; Kabat-Zinn & Kabat-Zinn, 1997), e pode ser definida como uma forma de parentalidade que consiste em trazer a atenção consciente às interações pais-filhos (Bögels & Restifo, 2014). A parentalidade mindful reflete a forma como os pais integram os conceitos de mindfulness nos seus pensamentos, sentimentos e comportamentos parentais, trazendo uma atitude de compaixão, aceitação e bondade à relação mãe/pai-filho e estando plenamente presentes durante as interações parentais (Bögels & Restifo, 2014; Coatsworth et al., 2010).

Com base no conceito de mindfulness, nas intervenções baseadas no mindfulness, e em estudos parentais, Duncan et al. (2009) propôs um modelo teórico que explica os efeitos positivos da parentalidade mindful na adaptação psicológica dos pais, bem como na relação pais-filhos. De acordo com o modelo teórico da parentalidade mindful (Duncan et al., 2009), esta abordagem pode contribuir para estilos e práticas parentais mais adaptativas (e.g., disciplina consistente,

monitorização) e para uma parentalidade globalmente positiva (e.g., melhor comunicação entre pais e filhos, maior sensação de autoeficácia parental), o que, por sua vez, se espera que contribua para um maior bem-estar da criança. Assim, mais do que ser uma prática parental em si mesma, a parentalidade mindful pode ser considerada um meta-construto de parentalidade, que promove práticas parentais adaptativas e, por conseguinte, promove efeitos positivos nos pais, nos filhos e na relação pais-filhos (Duncan et al., 2009; Wang et al., 2018).

De acordo com Duncan et al. (2009), a parentalidade mindful resulta do desenvolvimento de cinco importantes qualidades ou dimensões parentais.

A primeira qualidade da parentalidade mindful - *escutar com atenção plena* - pressupõe atenção e escuta. É apenas quando os pais direcionam toda a sua atenção para o filho que transmitem que estão realmente a ouvi-lo; durante a primeira infância, a atenção sensível dos pais é muitas vezes dirigida ao choro ou comportamentos do bebé que sinalizam o seu desconforto físico ou emocional.

A segunda qualidade da parentalidade mindful - *aceitação do self e da criança sem julgamento* - envolve estar consciente e atento às próprias atribuições e expectativas, uma vez que estas podem desviar a atenção das interações parentais. Além disso, envolve uma aceitação sem julgamento dos traços, atributos e comportamentos do próprio e da criança. Esta aceitação não significa uma aceitação resignada, que renuncia à responsabilidade de impor disciplina e orientação, mas significa reconhecer e compreender que os desafios enfrentados e os erros cometidos são uma parte saudável da vida. Assim, os pais mindful procuram transmitir aceitação e fornecem padrões claros e expectativas para o comportamento dos filhos, que são congruentes tanto com o contexto cultural como com o nível de desenvolvimento da criança.

A terceira qualidade da parentalidade mindful - *consciência dos estados emocionais do eu e da criança* - envolve que os pais tenham a capacidade de focar a atenção nos seus estados internos, tais como cognições e emoções, e nos estados internos dos seus filhos. Os pais deverão ser capazes de identificar corretamente as suas emoções e as dos filhos para realmente serem capazes de escutar com total atenção e fazê-lo sem julgamento. Esta qualidade irá permitir aos pais fazer escolhas conscientes sobre como responder em situações desafiadoras, como situações de stress parental, ao invés de reagir automaticamente às experiências emocionais.

A quarta qualidade da parentalidade mindful - *autorregulação na relação parental* - requer o autocontrolo autónomo dos pais, para que exista baixa reatividade ao comportamento da criança. Isto irá permitir que os pais adotem comportamentos que estão de acordo com os seus valores e objetivos parentais. A parentalidade mindful não implica que o impulso para mostrar raiva ou hostilidade não seja sentido, implica pausar antes de reagir nas interações parentais.

Por último, a quinta qualidade da parentalidade mindful - *autocompaixão e compaixão pela criança* - envolve o desejo dos pais satisfazerem as suas necessidades e as necessidades dos seus filhos, e de confortarem a angústia de ambos. Além disso, uma vez que a autocompaixão é composta por um sentido de humanidade comum (Neff, 2003), poderá ajudar a reduzir a ameaça de avaliação social que pode ser sentida pelos pais que se sentem julgados por outros, no que diz respeito ao seu próprio comportamento parental ou ao comportamento dos seus filhos, em contextos públicos. Adicionalmente, poderá ajudar a evitar a autoculpabilização quando os objetivos parentais não são alcançados. Desta forma, permite que os pais assumam uma visão menos dura e de maior perdão relativamente aos seus esforços e erros parentais.

Assim, a parentalidade mindful implica a adoção de uma *parentalidade compassiva*. Em primeiro lugar, esta abordagem na parentalidade exige que as mães e os pais tomem consciência do problema ou situação que ocorre no momento presente, para posteriormente o tentarem compreender e só depois tomarem alguma decisão e fazerem algo para o resolver. Esta abordagem exige, então, pausar e tomar consciência da situação, dando a oportunidade à mãe/pai de agir de acordo com os seus valores parentais (Duncan et al., 2009). A parentalidade compassiva não significa simplesmente "ser simpático" para com o filho, mas implica a definição clara de regras e limites (e.g., uma mãe ou pai compassivo evitará, por exemplo, que uma criança coma em excesso ou fique acordada até demasiado tarde, apesar dos protestos da criança) (Kirby, 2016).

De forma consistente, a literatura científica tem vindo a crescer e a demonstrar as inúmeras associações entre a parentalidade mindful e compassiva e resultados positivos no contexto da parentalidade. Diversos estudos empíricos, conduzidos com amostras de pais de crianças e adolescentes, têm indicado que adotar uma abordagem mindful na parentalidade está associado a níveis inferiores de stress parental (e.g., Moreira & Canavarro, 2018), interações pais-filhos mais positivas (e.g., Duncan et al., 2015), práticas parentais mais positivas (e.g., Han et al., 2021), e estilos parentais mais positivos e adaptativos (de Bruin et al., 2014). Um estudo recente demonstrou ainda que níveis superiores de parentalidade mindful estão associados a uma maior autorregulação nas crianças que, por sua vez, está relacionada com níveis mais baixos de problemas internalizantes e externalizantes, e uma maior prevalência de comportamentos pró-sociais nas crianças (Cheung et al., 2021). De igual modo, os programas baseados na parentalidade mindful, tais como o Treino de Parentalidade Mindful (TPM) (*Mindful Parenting Training*) (Bögels & Restifo, 2014), também se revelaram eficazes na redução do stress parental, da reatividade parental, dos problemas psicopatológicos dos pais e das crianças, e na promoção da regulação emocional e adaptação psicológica dos pais (e.g., Bögels et al., 2010; Meppelink et al., 2016).

Especificamente no período pós-parto, a investigação científica, no que respeita à parentalidade mindful, é ainda muito limitada. Contudo, alguns estudos demonstraram que níveis superiores de parentalidade mindful em mães no período pós-parto, se associavam a níveis inferiores de sintomas ansiosos e depressivos nas mães, menores dificuldades de regulação emocional (Caiado et al., 2020), uma ligação mãe-bebé mais funcional (Laifer et al., 2021), uma maior atenção e presença da mãe com o seu bebé (*mother's gaze*) (Potharst et al., 2021), e uma perceção do comportamento do bebé mais positiva (Gartstein, 2021). Também no período pós-parto, o treino de parentalidade mindful se tem revelado eficaz na redução da sintomatologia psicopatológica das mães e na promoção de interações mãe-bebé mais positivas, através da promoção de competências de parentalidade mindful (Potharst et al., 2017).

Seguidamente, iremos explorar os programas de intervenção existentes, baseados nos princípios da parentalidade mindful, e os resultados obtidos nos estudos desenvolvidos, com especial foco no período pós-parto.

2.3. Programas de intervenção parentais baseados na parentalidade mindful

Nos últimos anos, o interesse e investimento no desenvolvimento de programas de intervenção parental destinados a promover uma parentalidade mindful tem vindo a crescer. Estes programas envolvem a tomada de consciência, sem julgamento, do stress, ansiedade, tristeza e raiva (relacionados ou não com a parentalidade), ao invés de reforçar os comportamentos com base nessas emoções, praticando-se uma atenção focada e sem viés, cultivando a não-reatividade e o autocuidado (Bögels & Restifo, 2014). De um modo geral, a literatura tem sugerido que estes programas podem reduzir o stress parental e melhorar o funcionamento psicológico das crianças e adolescentes (Burgdorf et al., 2019). Além disso, as intervenções parentais que incluem componentes de compaixão parecem promover a autocompaixão e a capacidade de mindfulness nos pais e reduzir os seus sintomas depressivos e ansiosos e stress parental (Jefferson et al., 2020). Contudo, a maioria dos programas existentes foca-se na psicopatologia e sintomatologia psicopatológica dos pais, ao invés de promover competências parentais positivas e a qualidade da relação pais-filhos (Shi & MacBeth, 2017; Shorey et al., 2019; Taylor et al., 2016).

Townshend et al. (2016), desenvolveu uma revisão da literatura com o objetivo de avaliar sistematicamente quão eficazes são os programas baseados na parentalidade mindful na melhoria da qualidade da relação pais-filhos, bem como noutros resultados, tais como o bem-estar das crianças, adolescentes e pais, regulação emocional e atenção, resiliência e competências de mindfulness. Esta revisão concluiu que estes programas parecem reduzir os níveis de stress

parental e aumentar a consciência emocional dos pais acerca dos filhos, com idades entre os 10 e os 14 anos, bem como reduzir as perturbações externalizantes de crianças em idade pré-escolar. Além disso, de um modo geral, estes programas parecem reduzir o distanciamento emocional dos pais em relação às crianças e adolescentes. Embora esta revisão tenha incluído estudos com pais de crianças e adolescentes dos zero aos 18 anos de idade, que tivessem participado num programa de intervenção baseado na parentalidade mindful, nenhum dos estudos incluídos foi aplicado a pais no período pós-parto.

Apesar disso, de acordo com a investigação científica, as intervenções parentais baseadas na parentalidade mindful aplicadas especificamente no período pós-parto, apresentam resultados promissores e encorajadores. Uma das intervenções parentais, baseadas na parentalidade mindful e compassiva, desenvolvida para mães no período pós-parto é o Treino de Parentalidade Mindful com Bebés (TPMB) (*Mindful with Your Baby Training*) (Potharst et al., 2017). Esta intervenção consiste numa adaptação do TPM (Bögels & Restifo, 2014), especificamente destinada a mães de bebés, com idades entre os zero e os 18 meses, que experienciem níveis elevados de stress parental ou problemas de saúde mental, problemas de regulação no bebé, ou dificuldades na relação mãe-bebé. Este programa decorre num formato presencial e em grupo, e inclui oito sessões semanais, com uma duração de duas horas cada. O TPMB foi avaliado numa amostra clínica de mães, referenciadas para cuidados de saúde mental, demonstrando melhorar o bem-estar destas mães, a sua autocompaixão, competências de mindfulness, parentalidade mindful, confiança parental, o afeto e a responsividade para com o bebé. Além disso, o programa parece reduzir os níveis de stress parental nas mães, a psicopatologia materna e a hostilidade expressa durante as interações com o bebé (Potharst et al., 2017). Recentemente, o programa foi também avaliado numa amostra não clínica de mães, estando associado à promoção de competências de mindfulness e autocompaixão maternos, e redução dos níveis de stress, stress parental, e sintomas depressivos e ansiosos das mães (Potharst et al., 2022).

O TPM foi ainda adaptado para mães de crianças com idades entre os 18 e os 48 meses - Treino de Parentalidade Mindful com Crianças (TPMC) (*Mindful with Your Toddler Group Training*), um programa especificamente concebido para mães de crianças que experienciem dificuldades de (co-)regulação. Num estudo recente, que envolveu um grupo de mães de bebés, entre os zero e os 48 meses, que experienciavam stress parental, dificuldades na interação mãe-bebé/criança e/ou cujos bebés/crianças experienciavam problemas de regulação, foram analisados os efeitos do TPMB e do TPMC. Estes programas parecem contribuir para a redução do stress parental, promover a aceitação materna em relação ao bebé, e reduzir os comentários não sintonizados das mães em relação aos estados mentais da criança (Zeegers et al., 2019).

Para além das intervenções anteriormente apresentadas, que decorrem no formato presencial e em grupo, o TPM foi também adaptado para o formato online, individual e autoguiado. O TPMB foi desenvolvido num formato online, contendo oito sessões, com uma duração entre os 30 e os 50 minutos cada. Este programa foi avaliado através de um ensaio clínico aleatorizado (*Randomized Controlled Trial* [RCT]), com uma amostra de mães de bebés entre os zero e os 18 meses, que experienciavam níveis elevados de stress parental, e demonstrou que, apesar de apenas 15.5% das mães terem completado o programa, este foi eficaz na promoção da autocompaixão materna, na redução de sintomas depressivos e ansiosos, e reatividade materna, quando comparado com um grupo de controlo em lista de espera. No entanto, contrariamente às expectativas, a intervenção não foi eficaz na redução do stress parental. Relativamente a esta variável, importa referir que apenas se verificou um efeito tardio significativo no *follow-up*, no grupo experimental, e apenas para uma subescala da medida de stress parental (Potharst et al., 2019). Recentemente, também o TPMC foi adaptado para o formato online, e avaliado através de um estudo com uma amostra não-clínica de mães, com e sem stress parental. Apesar de apenas 23.1% das mães terem completado o programa, este estudo destacou a aceitabilidade de um programa de parentalidade mindful e compassiva para as mães, com e sem stress parental (Boekhorst et al., 2021). Ambos os estudos anteriormente apresentados sugeriram que o formato online apresentou vantagens adicionais para as mães de bebés e crianças (entre os zero e os 48 meses), uma vez que aumentou a acessibilidade e a relação custo-eficácia das intervenções. De facto, as características destas intervenções revelam-se fundamentais pois, apesar das inúmeras dificuldades das mães no período pós-parto, a sua maioria não pede ajuda durante este período para lidar com tais dificuldades (Fonseca et al., 2015; Rouhi et al., 2019), reduzindo o seu envolvimento no cuidado pós-parto (Walker et al., 2019).

Revela-se, então, essencial, explorar os comportamentos de procura de ajuda das mães no período pós-parto e as respetivas barreiras percebidas, e encontrar soluções eficazes para prestar cuidados de saúde mental materna e cuidados focados na parentalidade, adequados a este período.

2.3.1. Comportamentos de procura de ajuda e respetivas barreiras percebidas, no período pós-parto

O *comportamento de procura de ajuda* pode ser definido como um processo de tomada de decisão no qual a ação é precedida pelo reconhecimento de um problema e uma decisão consciente de fazer algo a seu respeito (Cornally & McCarthy, 2011). Existem três tipos de procura

de ajuda: procura de ajuda formal (e.g., consultar um profissional de saúde mental), procura de ajuda informal (e.g., rede de apoio social) e autoajuda (Rickwood et al., 2005).

Em Portugal, durante o período perinatal, as mulheres são acompanhadas em cuidados de saúde obstétricos e em consultas com os seus médicos de família. Embora os profissionais de saúde mental estejam disponíveis gratuitamente nas principais maternidades públicas, hospitais gerais e alguns centros de saúde, não há procedimentos de triagem implementados para melhorar a identificação de mães com dificuldades emocionais, na relação mãe-bebé e na parentalidade, que exijam particular atenção. Portanto, geralmente, os cuidados prestados dependem do comportamento de procura de ajuda destas mulheres (Fonseca & Canavarro, 2017).

Assim, torna-se essencial compreender as razões que levam as mães a não procurar ajuda, isto é, as *barreiras percebidas na procura de ajuda*, que garantam serviços adequados após o parto (Rouhi et al., 2019). Estas barreiras podem ser atitudinais (e.g., estigma), de conhecimento (e.g., reduzida literacia em saúde mental), ou práticas/estruturais (e.g., restrições financeiras) (Dennis & Chung-Lee, 2006; O'Mahen & Flynn, 2008). Uma revisão sistemática desenvolvida por Dennis e Chung-Lee (2006), sugeriu que as mães no período pós-parto não procuram ajuda de forma proativa, reportando como principal barreira a incapacidade de revelar os seus sentimentos, seguindo-se a pressão social percebida e a vergonha e o medo de serem rotuladas como doentes mentais. Outros estudos indicaram que a maioria das grávidas e mães no período pós-parto considera difícil falar sobre as suas dificuldades emocionais, e acredita que as pessoas não compreenderiam os seus sentimentos, referindo como principais barreiras na procura de ajuda a falta de tempo, não ter com quem deixar o seu bebé, os procedimentos institucionais complexos, e a incapacidade de pagar os cuidados (Lara et al., 2014; Loudon et al., 2016).

Em Portugal, um estudo realizado por Fonseca et al. (2015) indicou que apenas 13.6% das mulheres com depressão perinatal procura ajuda para lidar com as suas dificuldades emocionais, identificando principalmente barreiras de conhecimento (e.g., conhecimento da natureza dos problemas de saúde mental e opções de tratamento) na procura dessa ajuda. Um outro estudo, conduzido por Silva et al. (2018), mostrou que as mães que apresentavam sintomas psicopatológicos clinicamente relevantes relatavam atitudes menos positivas em relação à procura de ajuda; além disso, o estigma (barreira atitudinal) foi a barreira percebida mais frequentemente selecionada.

Neste sentido, e uma vez que os estudos anteriores indicam inúmeras barreiras que levam as mães, no período pós-parto, a não procurar ajuda para lidar com as suas dificuldades emocionais, dificuldades na relação mãe-bebé e parentalidade, e uma vez que as intervenções tradicionais presenciais, individuais ou em grupo, não são de fácil acesso para todas as mães

durante este período (e.g., Fonseca et al., 2015), é essencial encontrar alternativas para cuidar das mães e dos seus bebés.

2.3.2. *E-health* nos cuidados de saúde mental

A prestação de serviços de acompanhamento psicológico, incluindo avaliação/monitorização, promoção da saúde mental, prevenção, e tratamento, através das Tecnologias de Informação e Comunicação (TIC) pode ser uma forma eficaz de melhorar o acesso individual e a utilização dos serviços de saúde mental (Fonseca & Osma, 2021). As intervenções *e-mental health* referem-se ao uso das TIC – em particular, as tecnologias relacionadas com a internet – para apoiar e mediar os cuidados de saúde mental (e.g., intervenção psicológica mediada pela web ou intervenção psicológica online; intervenção psicológica mediada por dispositivos móveis; Christensen et al., 2002). Esta abordagem tem o potencial de fornecer informação sobre saúde mental, através de serviços de saúde mental melhorados e rentáveis, e de reduzir as barreiras percebidas na procura de ajuda entre as mulheres em risco (Bina, 2020), incluindo mães no período pós-parto (Lim et al., 2019). Diversas vantagens estão associadas a estas intervenções, em comparação com as intervenções tradicionais, presenciais, tais como o aumento da acessibilidade e flexibilidade, o acesso rápido e tempos de espera mais curtos, e os baixos custos (Lal & Adair, 2014). Especificamente as intervenções autoguiadas, uma vez que não exigem o envolvimento de um profissional de saúde mental, poderão ter custos ainda mais reduzidos e ser facilmente disseminadas (Donker et al., 2015).

De acordo com o nosso conhecimento, em Portugal, existe apenas uma intervenção psicológica online, autoguiada, aplicada no período pós-parto – *Be a Mom* - inicialmente desenvolvida para a prevenção da depressão pós-parto em mulheres que apresentassem fatores de risco para esta perturbação mental (Fonseca et al., 2020). No entanto, de acordo com o nosso conhecimento, não existe nenhuma intervenção centrada na redução do stress parental das mães que se encontram no período pós-parto, especialmente focada na promoção de uma abordagem mindful e compassiva na parentalidade, pelo que se revelou necessário e essencial colmatar esta lacuna e, assim, desenvolver uma intervenção, de baixo custo e facilmente acessível para esta população-alvo. Neste contexto, surge o programa Mindful Moment, que apresentaremos em maior pormenor no Capítulo III da presente dissertação (cf. Capítulo III).

3. Desafios atuais à adaptação materna no período pós-parto

De uma forma geral, importa realçar que o pós-parto é, de facto, um período desafiante, conduzindo muitas vezes à experiência de stress parental, particularmente nas mães. Uma vez que a investigação científica é clara e extensa no que respeita à associação entre o stress parental e indicadores mais negativos de saúde mental materna, relação mãe-bebé, desenvolvimento do bebé e práticas parentais, é cada vez mais relevante ajudar as mães a lidar com os seus níveis de stress parental. As intervenções parentais baseadas na parentalidade mindful e compassiva, têm-se relevado promissoras no que respeita à adaptação psicológica das mães ao período pós-parto, bem como na promoção de relações mãe-bebé mais positivas. Contudo, e especialmente em Portugal, a literatura é escassa, e de acordo com o nosso conhecimento, o desenvolvimento destas intervenções não foi ainda o principal foco de nenhuma investigação, à exceção do estudo apresentado nesta dissertação (cf. Estudo Empírico VI).

O investimento na saúde mental materna e parentalidade no período pós-parto releva-se de extrema importância, especialmente no momento atual, uma vez que, para além dos desafios comuns inerentes ao pós-parto, as mães enfrentam desafios acrescidos, relacionados com um contexto particular – o contexto pandémico.

3.1. Pandemia de COVID-19

Em dezembro de 2019, um novo coronavírus (síndrome respiratória aguda grave por coronavírus - 2 [SARS-CoV-2]), que causa COVID-19 (Doença por Coronavírus - 2019), foi identificado pela primeira vez na cidade de Wuhan, China (Korraa, 2020). Desde então, o vírus infetou milhões de pessoas em todo o mundo (Gupta et al., 2020), e em março de 2020, a Organização Mundial da Saúde (*World Health Organization* [OMS/WHO]) declarou a COVID-19 uma *pandemia*. Dado o seu elevado nível de transmissão entre os indivíduos, e devido à ausência de tratamento ou cura para esta doença, foi necessário adotar medidas para conter a sua propagação (Werner et al., 2020) e aliviar a pressão nos sistemas de cuidados de saúde (Pakenham et al., 2020).

Em Portugal, desde março de 2020, foram aplicadas diferentes fases de restrições relacionadas com a pandemia, em função do número de casos de infetados com COVID-19. O Estado de Emergência Nacional foi declarado em março de 2020 e perdurou até maio; este período correspondeu ao primeiro confinamento nacional, e consistiu na adoção de várias medidas restritivas, incluindo confinamento domiciliário e teletrabalho obrigatório, direitos

limitados sobre a circulação das pessoas (e.g., as pessoas só podiam sair de casa para a aquisição de bens essenciais e serviços específicos), encerramento temporário de escolas e de serviços não essenciais (e.g., atividades de lazer e entretenimento; restaurantes e bares) e o estabelecimento de regras de higiene específicas para as instituições em funcionamento (e.g., utilização de máscara; Direção-Geral da Saúde [DGS], 2020c). Após esse período, o Governo português foi gradualmente permitindo diversas atividades e foram implementadas medidas menos restritivas (e.g., abertura de infantários, ATLs [Atividades de Tempos Livres], cinemas e teatros; o teletrabalho passou a ser de carácter recomendado ao invés de obrigatório; República Portuguesa, 2020). Contudo, entre dezembro de 2020 e abril de 2021, foram novamente implementadas medidas mais restritivas, dado o aumento do número de casos de infeção por COVID-19 (Diário da República Eletrónico [DRE], 2020). Assim, surge um novo confinamento nacional entre janeiro e abril de 2021.

Ao longo do tempo, o desenvolvimento de diversas vacinas para a COVID-19 permitiram a diminuição da gravidade da doença quando a pessoa é infetada, assim como a sua transmissibilidade, e permitiu que, após abril de 2021, as medidas restritivas adotadas fossem gradualmente levantadas. Ainda assim, e mais uma vez, em dezembro de 2021, o aumento do número de casos com COVID-19 atingiu números muito elevados, voltando a ser adotadas medidas mais restritivas, que se mantiveram até ao mês de janeiro de 2022. No mês de fevereiro de 2022, foi atingido o pico de casos de COVID-19 em Portugal, até então, contudo, e com a maior parte da polução portuguesa vacinada, a doença foi-se revelando, progressivamente, menos grave e foi sendo atingida a imunidade de grupo da população (Centro de Informação do Medicamento e Intervenções em Saúde [CEDIME], 2021).

As diversas "vagas" que caracterizaram a pandemia até aos dias de hoje têm afetado a vida das pessoas a diversos níveis. As mães que se encontram no período pós-parto constituem um grupo particularmente vulnerável durante o contexto pandémico (Baran et al., 2021; Liu et al., 2021). Em Portugal, tal como no resto do mundo, foram feitas diversas adaptações aos cuidados no parto e pós-parto, na tentativa de melhor responder às exigências pandémicas. No início da pandemia, quando as mães não tinham suspeita ou confirmação de infeção por COVID-19, o parto decorreu de forma habitual, com o reforço das medidas de prevenção e controlo da infeção (e.g., utilização de máscara durante o parto), que se estenderam até ao período pós-parto (e.g., número limitado de visitantes durante o período de internamento). Contrariamente, quando existia suspeita ou confirmação de infeção pela doença, as medidas de prevenção e controlo da infeção eram adotadas, mas não existiam diretrizes bem definidas sobre o contacto mãe-bebé após o nascimento (DGS, 2020c). Embora esteja bem estabelecido na literatura que a ligação entre a mãe e o bebé é facilitada pelo contacto pele a pele entre ambos, a amamentação, e ainda a presença

do(a) companheiro(a) no acompanhamento pós-parto (OMS, 2018), o risco de infeção neonatal era desconhecido (Gupta et al., 2020), não existindo consenso sobre a separação das mães, infetadas ou suspeitas de estar infetadas, dos seus bebés após o nascimento (Teti et al., 2020). A OMS recomendou manter o contacto pele a pele entre a mãe e o bebé, e a partilha do quarto com o bebé (OMS, 2020). Contrariamente, em Portugal, a DGS recomendou inicialmente não realizar o contacto pele a pele após o nascimento do bebé e recomendou que, na ausência da separação mãe-bebé, a mãe lavasse cuidadosamente as mãos e utilizasse máscara antes de qualquer contacto com o bebé (e.g., durante a amamentação). Recentemente, as principais orientações em Portugal indicam que as normas de higiene devem ser cumpridas (e.g., utilização de máscara e desinfeção das mãos). Além disso, relativamente à presença de um acompanhante durante o parto e pós-parto, este deverá garantir um teste negativo à COVID-19 ou o esquema vacinal completo. No que respeita à amamentação e interação mãe-bebé, as orientações sugerem que as instituições de saúde tomem decisões individualizadas juntamente com as mães e respetivas famílias (DGS, 2020c).

Ainda que, atualmente, as orientações sejam mais claras no que respeita aos procedimentos a adotar durante o parto e o pós-parto, ao longo dos últimos tempos revelaram-se inconsistentes, e os desafios éticos para as equipas clínicas, que tentaram equilibrar os direitos parentais com a mitigação dos riscos para o bebé, resultaram em variações de práticas, que contribuíram para a experiência de níveis mais elevados de stress nas mães (Teti et al., 2020). Para além das preocupações das mães quanto à sua própria saúde e risco de infeção por COVID-19, acrescenta-se a preocupação com a saúde do seu bebé e familiares (Matvienko-Sikar et al., 2020). Estas preocupações foram particularmente intensificadas pelas medidas preventivas adotadas, tais como o confinamento domiciliário, o distanciamento físico, as consultas à distância com profissionais de saúde, e a impossibilidade de obter o apoio e cuidados expectáveis no período pós-parto (Thapa et al., 2020). Por exemplo, no retorno a casa após o parto, a mãe poderá não ter obtido o suporte social adequado para cuidar do bebé, não sendo possível obter ajuda dos seus familiares e/ou amigos próximos, devido ao distanciamento físico recomendado; ou não ter tido a possibilidade de obter ajuda externa com as tarefas domésticas, devido às medidas restritivas implementadas (Morgan, 2020).

Assim, e como demonstrado na literatura científica atual, o contexto pandémico parece ter tido um impacto negativo na adaptação psicológica das mães no período pós-parto, e consequentemente na relação mãe-bebé e práticas parentais adotadas (Almeida et al., 2020), como será explorado de seguida.

3.1.1. Implicações da pandemia de COVID 19 na saúde mental materna, relação mãe-bebé e parentalidade

O interesse da comunidade científica em explorar os efeitos da atual pandemia tem sido crescente e, no que respeita à saúde mental materna no período pós-parto existem já inúmeros estudos que comprovam o efeito negativo da pandemia e das medidas restritivas adotadas. Diversos estudos têm sugerido que a pandemia promoveu o desenvolvimento de sintomatologia depressiva e ansiosa nas mães no período pós-parto (Layton et al., 2021), comparativamente ao período pré-pandémico (Suárez-Rico et al., 2021). Por exemplo, um estudo constatou que 33.2% e 36.3% das mães de bebés com idades entre os zero e os 18 meses apresentavam, respetivamente, sintomas depressivos e ansiosos clinicamente relevantes, e que esses valores eram superiores às percentagens de sintomatologia depressiva e ansiosa pré-pandémicas (Cameron et al., 2020). Um outro estudo mostrou que as mães que deram à luz durante o período de confinamento apresentaram níveis mais elevados de sintomas depressivos do que as mães de um grupo de controlo que deram à luz durante o mesmo período, no ano anterior. Este estudo sugere que as preocupações sobre o risco de exposição à COVID-19, combinadas com as medidas restritivas e medidas hospitalares adotadas, tiveram um forte impacto psicológico e emocional nas mães que deram à luz durante este período, afetando negativamente os seus pensamentos e emoções, e contribuindo para o desenvolvimento de sintomas depressivos (Zanardo et al., 2020).

Adicionalmente, os estudos indicam que a pandemia potenciou os níveis de stress nas mães, no período pós-parto, associado à gestão da vida profissional e familiar (DeYoung & Mangum, 2021), incluindo stress parental (Omowale et al., 2021). Alguns estudos procuraram estudar os efeitos da pandemia na parentalidade, e sugerem uma forte associação entre a experiência de stress parental e a adoção de comportamentos parentais mais negativos (e.g., Freisthler et al., 2021). Por exemplo, foram realizados dois estudos com pais de crianças até aos 12 anos. Um estudo mostrou o impacto negativo da COVID-19 e das medidas de confinamento domiciliário no stress parental, demonstrando que a maioria dos pais apresentava níveis elevados de stress parental e a utilização de práticas parentais negativas, como o castigo, estabelecendo uma relação de baixa qualidade com os seus filhos. Apesar disso, alguns pais sentiam-se mais próximos dos seus filhos e demonstraram frequentemente mais amor e afeto (Chung et al., 2020). Outro estudo mostrou que o stress parental era um mediador na relação entre a perceção do impacto da COVID-19 na proximidade entre pais e filhos, e a severidade adotada na parentalidade; o stress parental mostrou-se ainda associado ao aumento do uso de uma parentalidade mais hostil (Chung & Lanier, 2020).

Contudo, o impacto da pandemia na relação mãe-bebé e na parentalidade, especificamente no período pós-parto, foi ainda muito pouco investigado. No entanto, foram já desenvolvidos alguns estudos que demonstraram que a ligação mãe-bebé foi mais disfuncional nas mães que deram à luz durante a pandemia, comparativamente a um grupo de mães que deram à luz no mesmo período, no ano anterior (e.g., Suzuki, 2020).

Neste contexto, o mindfulness e a autocompaixão também se têm revelado recursos psicológicos protetores importantes para lidar com os desafios pandémicos (Davis et al., 2021). Por exemplo, um estudo desenvolvido com uma amostra de grávidas e mães no período pós-parto, demonstrou que níveis mais elevados de mindfulness estão associados a menores níveis de sintomas depressivos (Sbrilli et al., 2021). No mesmo sentido, níveis mais elevados de autocompaixão estão associados a uma maior saúde mental positiva nas mães (Davis et al., 2021). Assim, intervenções psicológicas que promovam estes recursos psicológicos protetores poderão ajudar as mães a adaptar-se melhor ao período pós-parto e a estabelecer relações positivas com os seus bebés, quer durante este período particularmente desafiante, a pandemia de COVID-19, como para além dele.

As restrições relacionadas com a pandemia (particularmente o distanciamento físico), vieram tornar as intervenções psicológicas presenciais e, em especial, as intervenções em grupo, de difícil acesso. Por esse motivo, tem havido um investimento geral nas intervenções *e-mental health* para ultrapassar estas limitações (Saladino et al., 2020; Wind et al., 2020), uma vez que esta constitui uma opção viável para a prestação de cuidados de saúde mental durante a pandemia (Murphy et al., 2021). No contexto pandémico, foram já prestados cuidados de saúde mental tendo por base esta abordagem, com resultados promissores. Por exemplo, uma intervenção parental mediada por dispositivo móvel e baseada no mindfulness revelou resultados positivos na promoção de saúde mental materna no período pós-parto, nomeadamente na redução da sintomatologia depressiva das mães (Avalos et al., 2020). Foi também desenvolvido um folheto digital para mães no período pós-parto, com componentes de mindfulness e autocompaixão, que demonstrou promover uma ligação mãe-bebé mais funcional, relações e interações mais positivas entre as mães e os seus bebés, assim como a qualidade dos cuidados parentais (Perry et al., 2021). Contudo, e como referido anteriormente, são inexistentes, em Portugal, intervenções que apliquem estes conceitos no contexto da parentalidade, no período pós-parto.

A revisão da literatura previamente apresentada permite ter uma visão geral do estado da arte sobre a parentalidade no período pós-parto, mais especificamente sobre a saúde mental materna e o caso particular do stress parental; o papel da regulação emocional na parentalidade

e, em especial, o papel do mindfulness e da compaixão; a parentalidade mindful e os programas de intervenção parentais baseados na parentalidade mindful; e os comportamentos de procura de ajuda e as respetivas barreiras percebidas. Esta revisão foi também destacando algumas lacunas na literatura atual, as limitações dos estudos existentes e os desafios atuais para uma melhor compreensão das temáticas em estudo.

Em primeiro lugar, é de extrema importância compreender e avaliar o efeito das intervenções parentais existentes, baseadas na parentalidade mindful e compassiva, aplicadas ao período pós-parto, sintetizando os tipos e características das intervenções. Ao conhecer a literatura, mais facilmente serão identificadas as lacunas nos programas de intervenção existentes, que servirão de base para o desenvolvimento e planeamento de programas de intervenção terapêuticos inovadores com mães no período pós-parto. Além disso, é importante explorar e compreender a experiência emocional das mães durante este período, especialmente em Portugal, dada a escassez de literatura nesta área de investigação, com especial foco nos fatores e mecanismos-chave associados à adoção de uma parentalidade mindful e compassiva. De acordo com o nosso conhecimento, quer a nível internacional como nacional, a parentalidade mindful e compassiva no período pós-parto e, especificamente, durante a atual pandemia, foi escassamente investigada. Identificar e compreender como é que esta abordagem na parentalidade pode ser promovida, poderá ter um impacto positivo futuro na relação parental e no desenvolvimento da criança. Por último, e uma vez que intervenções parentais baseadas na parentalidade mindful e compassiva no período pós-parto, em Portugal, são inexistentes, é de extrema importância desenvolver uma intervenção que responda a esta lacuna.

Assim, o trabalho desenvolvido na presente dissertação pretende reunir um conjunto de evidências empíricas que suportem os benefícios da adoção de uma parentalidade mindful e compassiva na diminuição do stress parental e na promoção de práticas parentais positivas em mães no período pós-parto, assim como na promoção de uma relação mãe-bebé mais segura e positiva. Além disso, com este trabalho de investigação pretendemos colmatar as lacunas existentes, no que respeita à parentalidade mindful e compassiva no período pós-parto, ao nível da investigação científica, e ao nível da prática clínica, procurando responder aos desafios atuais das mães, com o desenvolvimento de um programa de intervenção psicológica parental, que poderá ser útil para além do contexto pandémico. Para tal, foi desenvolvida uma Revisão Sistemática da Literatura e seis estudos empíricos. O último estudo desenvolvido correspondeu à avaliação de uma intervenção psicológica online e autoguiada, que pretendeu reduzir os níveis de stress parental de mães portuguesas e promover uma parentalidade mindful e compassiva - o Mindful Moment (cf. Capítulo III).

Capítulo II | Objetivos e Metodologia da Investigação

O projeto de investigação apresentado na presente dissertação, foi desenvolvido na linha de investigação *Relações, Desenvolvimento & Saúde* (RD&S) do Centro de Investigação em Neuropsicologia e Intervenção Cognitivo-Comportamental (CINEICC; unidade de Investigação & Desenvolvimento da Fundação para a Ciência e a Tecnologia [FCT]) da Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra (FPCE-UC).

O trabalho de investigação está dividido em três fases: I) revisão sistemática da literatura focada nas intervenções parentais baseadas na parentalidade mindful e compassiva, aplicadas nos primeiros anos de vida da criança, incluindo no período pós-parto; II) compreensão da experiência emocional das mães e dos diferentes fatores e mecanismos-chave associados à adoção de uma parentalidade mindful e compassiva no período pós-parto; e III) desenvolvimento, implementação e avaliação do Mindful Moment, um programa de parentalidade mindful e compassiva, online e autoguiado, destinado a mães que experienciem stress parental no período pós-parto (apresentado em maior detalhe no Capítulo III da presente dissertação). Este processo concebeu a presente dissertação, constituída por sete estudos (uma revisão sistemática da literatura e seis estudos empíricos), realizados no formato de artigo científico, que se encontram atualmente publicados (seis estudos) ou submetido (um estudo) em revistas científicas internacionais com revisão de pares. Os objetivos e metodologias de investigação (e.g., participantes, procedimentos, instrumentos de avaliação e análise de dados) específicos de cada estudo serão apresentados nas respetivas secções, no Capítulo IV.

No Capítulo II pretende-se reunir e integrar a informação relativa a objetivos, opções metodológicas e estatísticas conduzidas em cada estudo empírico (fases II e III) e considerações éticas que guiaram a conceptualização, operacionalização e implementação desta investigação.

1. Objetivos de investigação

Após a identificação das lacunas existentes na literatura científica nacional e internacional e da aferição da existência de programas de intervenção psicológica baseados na evidência que pretendam reduzir os níveis de stress parental de mães no período pós-parto e promover competências parentais positivas (apresentadas no Capítulo I da presente dissertação), foram delineados os objetivos de investigação seguidamente apresentados.

De um modo geral, este projeto de investigação pretendeu contribuir para uma melhor compreensão da experiência emocional das mães no período pós-parto, explorar e compreender diferentes fatores e mecanismos-chave associados à adoção de uma parentalidade mindful e compassiva e, por fim, dar um contributo científico e clínico inovador através do

desenvolvimento, implementação e avaliação de um programa de parentalidade mindful e compassiva. Para tal, foram explorados diferentes modelos integradores e inovadores de articulação das variáveis em estudo e construído um programa de intervenção psicológica, tendo-se estabelecido três objetivos gerais:

1) Avaliar, sistematicamente, o efeito das intervenções parentais baseadas na parentalidade mindful e compassiva, aplicadas nos primeiros anos de vida da criança, incluindo no período pós-parto, na promoção de competências parentais positivas e na melhoria da qualidade dos cuidados parentais [Revisão Sistemática da Literatura].

2) Explorar e compreender a experiência emocional das mães no período pós-parto, assim como os diferentes fatores e mecanismos-chave associados à adoção de uma parentalidade mindful e compassiva, antes e durante a pandemia de COVID-19.

2.1. Explorar se a sintomatologia depressiva e ansiosa das mães e a sua perceção do temperamento do bebé se encontram associadas às diferentes dimensões da parentalidade mindful, e se esta relação é mediada pelo stress parental [Estudo Empírico I];
2.2. Explorar a contribuição de variáveis relacionadas com a pandemia, saúde mental materna e parentalidade mindful na explicação da ligação mãe-bebé, durante a primeira vaga da pandemia em Portugal [Estudo Empírico II];
2.3. Explorar, longitudinalmente, a associação entre a autocompaixão e a ligação mãe-bebé, e se esta relação é mediada pela parentalidade mindful e pelo stress parental, durante a primeira vaga da pandemia em Portugal [Estudo Empírico III];
2.4. Explorar se a autocompaixão das mães está associada à parentalidade mindful, e se a esta relação é mediada pela sintomatologia depressiva e ansiosa, durante a terceira vaga da pandemia em Portugal [Estudo Empírico IV].

3) Desenvolver, implementar e avaliar o Mindful Moment, um programa de parentalidade mindful e compassiva, online e autoguiado, numa amostra de mães com níveis moderados ou elevados de stress parental no período pós-parto.

3.1. Explorar os comportamentos de procura de ajuda e as respetivas barreiras percebidas, de mães que se encontram no período pós-parto, e a sua aceitabilidade e preferências

relativamente a intervenções parentais baseadas na parentalidade mindful [Estudo Empírico V];

3.2. Avaliar a viabilidade, aceitabilidade e evidência preliminar de eficácia do Mindful Moment [Estudo Empírico VI].

Os objetivos previamente apresentados originaram uma revisão sistemática da literatura e seis estudos empíricos, estando os objetivos específicos de cada estudo apresentados no Quadro 1. A Revisão Sistemática da Literatura assim como os estudos empíricos I, II, III, IV e V encontram-se publicados, e o Estudo Empírico VI encontra-se submetido, em revistas científicas internacionais com revisão de pares.

Quadro 1. *Objetivos Específicos Explorados nos Estudos Desenvolvidos*

Fase de investigação	Estudo	Objetivos específicos
I	Revisão Sistemática da Literatura	1. Avaliar, sistematicamente, o efeito das intervenções parentais baseadas na parentalidade mindful e compassiva, aplicadas nos primeiros anos de vida da criança, incluindo no período pós-parto, na promoção de competências parentais positivas e na melhoria da qualidade dos cuidados parentais; 2. Rever compreensivamente e sintetizar os tipos e características das intervenções existentes (e.g., desenho, população, contexto, abordagem de intervenção) e as estratégias terapêuticas utilizadas em cada intervenção.
II	Estudo Empírico I	1. Analisar se as diferentes dimensões da parentalidade mindful diferem de acordo com os níveis de sintomatologia depressiva e/ou ansiosa das mães e com a sua perceção do temperamento do bebé, no período pós-parto; 2. Explorar se a sintomatologia depressiva e ansiosa das mães e a sua perceção do temperamento do bebé se encontram associadas às diferentes dimensões da parentalidade mindful, e se esta relação é mediada pelo stress parental.
	Estudo Empírico II	1. Analisar se a saúde mental materna (sintomatologia depressiva, ansiosa e stress parental), a parentalidade mindful e a ligação mãe-bebé variam em função do momento em que o bebé nasceu (i.e., antes da pandemia ou durante a pandemia); 2. Explorar a contribuição de variáveis relacionadas com a pandemia, saúde mental materna e parentalidade mindful na explicação da ligação mãe-bebé, durante a primeira vaga da pandemia em Portugal.
	Estudo Empírico III	1. Comparar os níveis de autocompaixão, parentalidade mindful, stress parental e ligação mãe-bebé entre um período de elevadas restrições associadas à pandemia (T1) e um período de desconfinamento (T2); 2. Explorar, longitudinalmente, a associação entre a autocompaixão e a ligação mãe-bebé, e se esta relação é mediada pela parentalidade mindful e pelo stress parental, durante a primeira vaga da pandemia em Portugal.

	Estudo Empírico IV	1. Comparar mães que experienciaram e mães que não experienciaram um impacto emocional negativo da pandemia no período pós-parto, relativamente a autocompaixão, parentalidade mindful, sintomatologia depressiva e ansiosa, durante a terceira vaga da pandemia em Portugal; 2. Explorar se a autocompaixão das mães está associada à parentalidade mindful e se sintomatologia depressiva e ansiosa medeiam esta associação, durante a terceira vaga da pandemia em Portugal.
III	Estudo Empírico V	1. Explorar a experiência emocional, os comportamentos de procura de ajuda e as respetivas barreiras percebidas das mães no período pós-parto; 2. Explorar o conhecimento e a aceitabilidade das mães relativamente a intervenções parentais baseadas na parentalidade mindful e as suas preferências relativamente às principais características destas intervenções; 3. Comparar mães com e sem sintomatologia depressiva clinicamente relevante, relativamente a comportamentos de procura de ajuda e à aceitabilidade de intervenções parentais baseadas na parentalidade mindful.
	Estudo Empírico VI	1. Avaliar a viabilidade do Mindful Moment, em termos de adesão, desistências e padrão de utilização do programa (e.g., número de módulos completados, número de páginas acedidas em cada módulo do programa); 2. Avaliar a aceitabilidade do Mindful Moment, em termos da perceção global do programa, por parte das participantes; 3. Avaliar a evidência preliminar de eficácia do Mindful Moment em termos de resultado primário (i.e., stress parental) e resultados secundários (e.g., parentalidade mindful, autocompaixão, sintomas depressivos).

1.1. Adaptações ao projeto de investigação e objetivos inicialmente propostos

De uma forma geral, as atividades desenvolvidas no âmbito do presente projeto de investigação cumpriram o cronograma inicialmente delineado, até ao mês de março de 2020, mês em que a COVID-19 foi considerada uma pandemia e surgiu também em Portugal.

Assim, foi necessário adaptar os objetivos inicialmente propostos ao contexto pandémico atual. Relativamente ao primeiro objetivo, este não sofreu quaisquer alterações. No que respeita ao segundo objetivo, geral e específicos, considerámos fundamental explorar e compreender a experiência emocional das mães no período pós-parto, assim como os diferentes fatores e mecanismos-chave associados à adoção de uma parentalidade mindful e compassiva, não só antes da pandemia, como também durante a pandemia. Por fim, no que respeita ao terceiro objetivo, foi essencial proceder a algumas alterações na sua implementação prática. A execução do ensaio clínico para avaliar o programa de intervenção psicológica, inicialmente proposto, estruturado, em formato presencial e em grupo, tinha início previsto em abril de 2020. Contudo, tendo em conta os constrangimentos e restrições associados à pandemia (i.e., confinamento

obrigatório e cumprimento de distanciamento social), não foi possível realizar os grupos de intervenção presencialmente no Agrupamento de Centros de Saúde (ACeS) do Baixo Mondego, mesmo tendo sido obtida a aprovação da Comissão de Ética da Administração Regional de Saúde (ARS) do Centro para a condução dos grupos terapêuticos. Assim, tornou-se necessário encontrar alternativas à intervenção em formato presencial e em grupo e, aplicáveis no período pós-parto, que fossem viáveis e eficazes. A intervenção psicológica inicialmente proposta foi, então, adaptada para um formato breve e online. O seu carácter online e gratuito, permitiu, não só, ultrapassar as limitações associadas à pandemia, como responder à recomendação da Ordem dos Psicólogos Portugueses (OPP) de, no contexto pandémico vigente, implementar intervenções psicológicas para pais e bebés utilizando meios de comunicação à distância (OPP, 2020).

De notar que o objetivo 3.1. (i.e., explorar os comportamentos de procura de ajuda e as respetivas barreiras percebidas, bem como a aceitabilidade e preferências das mães no período pós-parto relativamente às intervenções parentais baseadas na parentalidade mindful), desenvolvido no Estudo Empírico V, não sofreu alterações, e permitiu preparar e guiar, tanto o programa de intervenção inicialmente proposto, como o Mindful Moment.

2. Metodologia

Nesta secção serão apresentados os procedimentos metodológicos implementados na realização do trabalho de investigação de forma a concretizar os três objetivos gerais propostos e realizar os estudos previamente referidos (Revisão Sistemática da Literatura [Fase I], Estudos Empíricos I, II, III, IV [Fase II] e Estudos Empíricos V e VI [Fase III]). Tendo em conta que o primeiro produto científico (primeiro objetivo geral, Fase I), diz respeito a uma revisão sistemática da literatura, a sua metodologia será apresentada e descrita em secção própria no Capítulo IV da presente dissertação.

2.1. Desenho da investigação

Na Fase I do presente projeto de investigação foi desenvolvida uma revisão sistemática da literatura; na Fase II foram desenvolvidos quatro estudos de natureza quantitativa - três estudos transversais (Estudos Empíricos I, II, IV), compostos por dados recolhidos num único momento de avaliação, e um estudo longitudinal (Estudo Empírico III), composto por dados recolhidos em dois momentos de avaliação; e, por fim, na Fase III, foi conduzido um estudo de natureza quantitativa, com um desenho transversal (Estudo Empírico V) e um ensaio clinico aleatorizado (i.e., RCT)

piloto, aberto, com duas condições (Estudo Empírico VI), que pretendeu avaliar a viabilidade, aceitabilidade e eficácia preliminar do Mindful Moment, por comparação com um grupo de controlo em lista de espera [*Waiting-list Control* (WLC)]. De acordo com a literatura, os RCTs são reconhecidos como o método de excelência para testar a eficácia de tratamentos psicológicos (David et al., 2018). Uma vez que o Mindful Moment diz respeito a um novo programa, aplicado à população portuguesa, e os seus efeitos são desconhecidos, considerou-se pertinente conduzir um estudo com um carácter piloto. Desta forma, pretendeu-se obter informação pertinente sobre a viabilidade, capacidade de recrutamento, características da amostra, aceitabilidade e usabilidade do programa, assim como sobre a sua eficácia preliminar, para que, posteriormente, e com as adaptações necessárias, possa ser conduzido um RCT em larga escala. Os princípios e conceitos gerais do desenho de investigação do RCT (Estudo Empírico VI), serão apresentados em maior detalhe de seguida.

2.1.1. Desenho de investigação do ensaio clínico aleatorizado

O principal objetivo de um ensaio clínico aleatorizado ou RCT é testar o efeito de uma intervenção relativamente a um determinado resultado, numa população-alvo. Nos estudos que utilizam esta metodologia, são comparados dois ou mais grupos ou "braços" de participantes: um grupo experimental, que recebe a intervenção, e um grupo de controlo, que recebe uma intervenção alternativa, uma intervenção placebo ou nenhuma intervenção. Ambos os grupos são avaliados durante um período de tempo previamente definido para testar a eficácia da intervenção. De facto, o desenho de investigação e procedimento destes estudos, particularmente a aleatorização, alocação e a ocultação (*blinding*), permitem diminuir o enviesamento e obter provas mais imparciais relativamente ao impacto da intervenção sobre o resultado desejado, minimizando as diferenças nas características dos grupos de estudo.

Especificamente, a aleatorização assegura que cada participante tem uma hipótese equivalente de receber a(s) intervenção(ões) em estudo. Além disso, fornece uma base estatística sólida para a análise dos dados relacionados com os efeitos da intervenção, evitando um desequilíbrio nas características do primeiro momento de avaliação (linha de base). A avaliação da elegibilidade dos participantes e o processo de recrutamento foram conduzidos pelo investigador de referência do projeto e autor desta dissertação. Um código para cada participante foi gerado e enviado para um investigador externo que realizou a aleatorização e atribuiu cada código a um dos dois grupos do estudo. No ensaio clínico aleatorizado desenvolvido neste projeto de investigação, a aleatorização foi realizada através de um programa informático, capaz de gerar números aleatórios (rácio da alocação 1:1).

Por sua vez, a ocultação significa que o participante ou o investigador desconhece a que grupo os participantes são alocados. Assim, é possível minimizar a influência desse conhecimento no recrutamento e atribuição dos participantes às diferentes condições, nas atitudes dos participantes em relação à intervenção, na avaliação dos resultados ou na exclusão dos dados da análise. Podem ser implementados dois tipos distintos de ocultação: a dupla ocultação, em que tanto os participantes como os investigadores desconhecem a alocação nas diferentes condições; e única ocultação, em que apenas os participantes ou apenas os investigadores desconhecem a alocação nas diferentes condições. No presente projeto de investigação, e tendo em consideração os aspetos éticos da Declaração de Helsínquia (2013) e o código de ética da APA (*American Psychological Association*) e da OPP, foi conduzido um ensaio clínico aberto (i.e., sem ocultação), em que tanto os participantes como os investigadores conheciam a que condição pertenciam. De forma a minimizar o possível enviesamento desta metodologia, foi efetuada a ocultação na alocação a cada uma das condições, isto é, o investigador que gerou a sequência da alocação não foi o mesmo investigador que avaliou os critérios de elegibilidade e que estava ativamente envolvido no recrutamento da amostra. Desta forma, foi possível evitar que o investigador responsável pelo recrutamento pudesse tendencialmente alocar um participante a determinada condição, tendo por base os resultados obtidos no primeiro momento de avaliação.

Por fim, no que respeita à elaboração dos RCTs, esta deve seguir as recomendações do Grupo CONSORT (*Consolidated Standards of Reporting Trials*). Estas recomendações e linhas orientadoras permitem aos investigadores apresentar a informação de forma completa, organizada e transparente, relativa à metodologia de investigação e às conclusões do estudo. Além disso, é uma ferramenta útil para revisores e editores procederem à avaliação crítica da qualidade metodológica do ensaio clínico. O Estudo Empírico VI foi desenvolvido e elaborado seguindo as recomendações da CONSORT 2010 para ensaios clínicos aleatorizados - piloto (Eldridge et al., 2016), bem como as recomendações da extensão CONSORT-SPI 2018 (Montgomery et al., 2018), específicas de intervenções sociais e psicológicas, e as da CONSORT-EHEALTH (Eysenbach, 2011), que fornece orientações aos investigadores acerca de intervenções baseadas na internet. Ressalva-se ainda que, de acordo com as orientações do grupo CONSORT 2010 (Schulz et al., 2010), o RCT desenvolvido neste projeto de investigação encontra-se registado numa base de dados de ensaios clínicos, nomeadamente a ClinicalTrials.gov (NCT04892082).

2.2. Procedimentos de recolha de amostra e participantes

No presente projeto, procedeu-se à recolha de dados, utilizando-se um método de amostragem não probabilística, por conveniência, junto de pais e mães da população geral

(Estudos Empíricos I, II, III, IV e V). Especificamente no Estudo Empírico VI procedeu-se à recolha de dados apenas junto de mães da população geral. O recrutamento dos participantes foi feito online, pelo investigador de referência do projeto.

De seguida, iremos descrever o procedimento de recolha dos dados, transversal a todas as amostras nos Estudos Empíricos I ao V, e os procedimentos de recolha específicos do ensaio clínico aleatorizado (Estudo Empírico VI). Serão também detalhadamente apresentadas as características de cada amostra.

Estudo Empírico I, II, III, IV e V

A recolha de dados foi aprovada e autorizada pela Comissão de Ética da FPCE-UC. O recrutamento de participantes do Estudo Empírico I, II, III, IV e V decorreu de forma semelhante, através de questionários de autorresposta online, disponíveis na plataforma Limesurvey®, alojada no website da FPCE-UC. Os web-links dos questionários dos respetivos estudos foram divulgados pelos investigadores numa página sobre parentalidade e período pós-parto criada especificamente no âmbito do presente projeto de investigação na rede social Facebook®. Os questionários dos estudos foram divulgados através de email, partilhas online, em fóruns e páginas cujos interesses dos seus membros se relacionavam com a parentalidade e o período pós-parto, e ainda através de campanhas de promoção pagas à própria rede social.

Os participantes que clicassem no web-link do questionário, antes do seu preenchimento, recebiam informações sobre os objetivos de investigação, a natureza confidencial das respostas dadas, o papel dos participantes e os deveres dos investigadores. Os participantes foram ainda esclarecidos de que não receberiam nenhuma compensação pela sua participação no estudo. Posteriormente, era ainda solicitado o consentimento informado para participar no estudo, obtido através da seleção da opção "Eu compreendo e aceito as condições do estudo".

Para participar nos diferentes estudos, os participantes deveriam preencher alguns critérios de elegibilidade, detalhados de acordo com cada estudo (cf. Quadro 2). De notar que, apesar do recrutamento ter sido realizado junto de pais e mães, os pais foram excluídos em todos os estudos devido à sua baixa representatividade na amostra (descrito em detalhe em cada estudo, no Capítulo IV).

A mesma amostra de mães participou nos Estudos Empíricos I (N = 560) e V (N = 599). Da mesma forma, a mesma amostra de mães participou nos Estudos Empíricos II (N = 567) e III (N = 125). Importa relembrar que o Estudo Empírico II assenta num desenho transversal, cujo momento de avaliação é coincidente com o primeiro momento de avaliação do Estudo Empírico III que, sendo longitudinal, apresenta dois momentos de avaliação. Assim, no final do protocolo do primeiro momento de avaliação, foi questionado aos participantes se teriam interesse em

participar num segundo momento de avaliação e, em caso afirmativo, era pedido que providenciassem os seus endereços de email, para que, dois meses depois, recebessem o questionário correspondente ao segundo momento.

Estudo Empírico VI

O recrutamento de participantes para o RCT decorreu através de um questionário de autorresposta online, constituído por um questionário de elegibilidade e um questionário para avaliação do stress parental (Escala de Stress Parental; Mixão, 2010) (critérios de elegibilidade), disponível na plataforma Limesurvey®, alojada no website da FPCE-UC. O web-link do questionário foi divulgado pelos investigadores numa página criada na rede social Facebook® e Instagram®, denominada "Mindful Moment – Programa de parentalidade mindful e compassiva". Além disso, a divulgação deste estudo foi feita através de email, partilhas online, em fóruns e páginas cujos interesses dos seus membros se relacionavam com a parentalidade e o período pós-parto, campanhas de promoção pagas às próprias redes sociais, e nos Centros de Saúde do ACeS do Baixo Mondego, após aprovação pela ARS do Centro.

As participantes que clicassem no web-link do questionário, antes do seu preenchimento, recebiam informação relativamente aos objetivos de investigação, ao papel dos participantes e aos deveres dos investigadores, à natureza voluntária da participação no estudo, e a todos os aspetos relacionados com a proteção de dados (confidencialidade e anonimato). Posteriormente, era ainda solicitado o consentimento informado para participar no estudo, obtido através da seleção da opção "Eu compreendo e aceito as condições do estudo". As participantes interessadas em participar providenciavam o seu consentimento informado e respondiam ao formulário de elegibilidade (que continha as questões de elegibilidade e a Escala de Stress Parental) para avaliar se cumpriam os critérios de elegibilidade para ingressar no estudo, detalhados no Quadro 2. As participantes que preenchessem estes critérios eram posteriormente contactadas através do endereço de email, facultado no questionário. Foram também contactadas todas as participantes que não cumpriram os critérios de elegibilidade, tendo sido informadas do motivo pelo qual não foram selecionadas para participar no estudo. Estas participantes receberam ainda a sugestão de procura de ajuda junto de um profissional de saúde mental para lidar com as suas eventuais dificuldades.

Na segunda fase do estudo, as participantes elegíveis eram convidadas a registar-se no website que continha o programa Mindful Moment, através da criação de uma palavra-passe protegida (www.mindfulmoment.pt; o acesso ao programa é restrito ao registo). Após o registo, as participantes deveriam aceder ao Módulo 0 ("Introdução ao Mindful Moment" - um módulo breve, sem conteúdo de intervenção), no qual se encontravam explicadas as características do

programa, relativamente à sua duração e estrutura, bem como aspetos de natureza prática (e.g., sugestão de utilização de auscultadores na realização dos exercícios de áudio; sugestão de utilização de um bloco de notas especificamente reservado para os exercícios e notas do Mindful Moment). No final do Módulo 0, as participantes tinham ainda acesso ao web-link do protocolo do primeiro momento de avaliação (T1). Depois de preencherem este questionário, as participantes foram aleatorizadas e divididas em dois grupos (grupo experimental, com acesso imediato à intervenção Mindful Moment; e grupo de controlo em lista de espera).

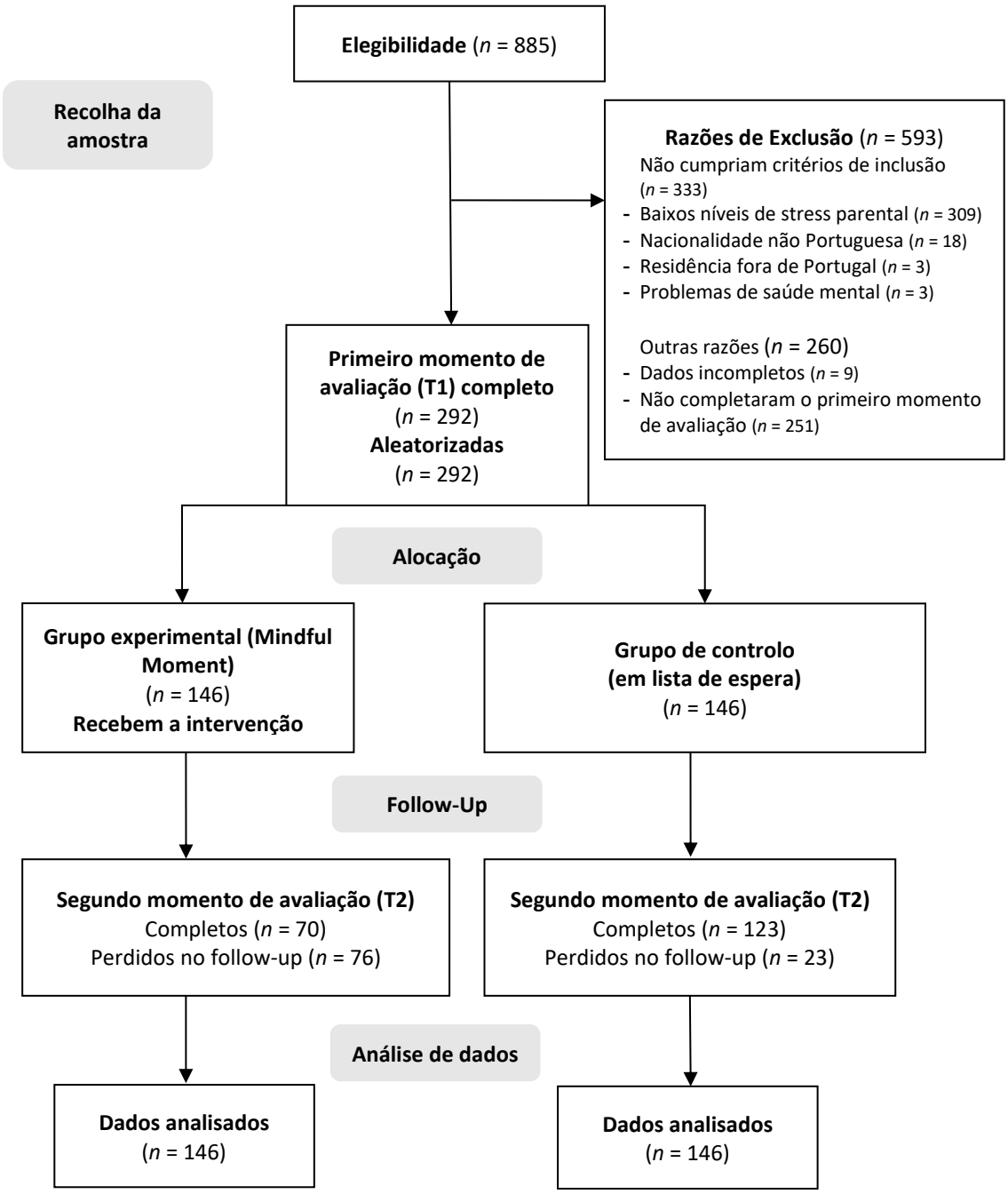
Para reduzir as taxas de desistência, as participantes do grupo experimental receberam, uma vez por semana, durante oito semanas, um lembrete (por email ou SMS) para continuarem a aceder ao Mindful Moment. As mães cujo número de telemóvel era válido foram também contactadas pelo investigador de referência, aproximadamente três semanas após o preenchimento do T1, com o objetivo de esclarecer quaisquer questões relativas ao programa ou dificuldades de acesso ao website. No caso de as participantes completarem todos os módulos do programa, dois a três dias depois recebiam um email que continha o segundo momento de avaliação (T2). No caso das participantes que não completaram o programa, foi também enviado um email com o segundo momento de avaliação, oito semanas após a aleatorização. De notar que apesar de nenhuma intervenção ter sido oferecida às participantes do grupo de controlo, estas foram informadas de que teriam acesso ao Mindful Moment no final do estudo. Cerca de oito semanas após a aleatorização, foi também pedido ao grupo de controlo que completasse o protocolo do T2, para que os momentos de avaliação dos grupos fossem coincidentes.

Cerca de 885 mulheres completaram o questionário inicial, tendo sido contactadas pelo investigador. Deste número total de participantes, 593 (67%) mulheres foram excluídas por inúmeras razões (detalhadas na Figura 1), a maioria por não apresentar níveis moderados ou elevados de stress parental (*n* = 309, 52.1%). Das 543 participantes elegíveis, 292 completaram o primeiro momento de avaliação e foram aleatorizadas e alocadas a uma de duas condições: 1) grupo experimental, com acesso imediato ao Mindful Moment (*n* = 146) ou 2) grupo de controlo em lista de espera (*n* = 146). Na figura 1 é apresentado o diagrama final das participantes deste estudo (cf. Figura 1).

Quadro 2. *Informações Sobre as Amostras Utilizadas em cada Estudo Empírico*

Estudo	Período da recolha de dados	Amostra	Critérios de elegibilidade	*N*
I	Dezembro 2018 – fevereiro 2019	Mães no período pós-parto	Nacionalidade portuguesa; Idade do pai/mãe ≥ 18 anos; Idade do bebé entre zero-12 meses	560
V				599
II	Abril – maio 2020 (período de elevadas restrições relacionadas com a pandemia em Portugal – primeira vaga [Estado de Emergência e primeira fase do plano de desconfinamento])			567
III	T1: abril– maio 2020 (período de elevadas restrições relacionadas com a pandemia em Portugal – primeira vaga [Estado de Emergência e primeira fase do plano de desconfinamento]) T2: junho – julho 2020 (período de regresso ao "novo normal", após o plano de desconfinamento)			125
IV	Dezembro 2020 – janeiro 2021 (período de elevadas restrições relacionadas com a pandemia em Portugal – terceira vaga [Estado de Emergência])		Nacionalidade portuguesa; Idade do pai/mãe ≥ 18 anos; Idade do bebé entre zero-seis meses	977
VI	Abril – outubro 2021		Nacionalidade portuguesa; Idade da mãe ≥ 18 anos; Idade do bebé entre zero-18 meses; Apresentar níveis moderados ou elevados de stress parental (ponto de corte da Escala de Stress Parental ≥ 41; Mixão, 2007); Residência em Portugal; Acesso à internet em casa, num computador, tablet ou telemóvel; Não apresentar um diagnóstico de uma condição de saúde mental séria (e.g., esquizofrenia, abuso de substâncias, perturbação bipolar, perturbação de personalidade)	292 [grupo experimental (*n* = 146); grupo de controlo (*n* = 146)]

Figura 1. *Diagrama das Participantes no Ensaio Clínico Aleatorizado Piloto*



Tamanho da amostra. Uma das etapas essenciais antes do desenvolvimento de um RCT é o cálculo do tamanho da amostra, uma vez que este permite obter um poder razoável para detetar diferenças nas variáveis em estudo e estabelecer a eficácia da intervenção, num determinado nível de significância. Um RCT pode ser conduzido com elevado rigor metodológico e ainda assim não responder à questão de investigação caso o tamanho da amostra seja demasiado pequeno (e.g., podem ser observadas diferenças clinicamente significativas, mas não estatisticamente

significativas) ou demasiado grande (e.g., a importância de pequenos efeitos pode ser exagerada e estes não serem efetivamente clinicamente significativos). De acordo com Zhong (2009), o tamanho da amostra deve ser calculado tendo em conta o resultado primário do ensaio clínico, o tipo de medida de avaliação, o tamanho do efeito pretendido e o teste estatístico a utilizar. Ao nível estatístico, é conduzida uma análise de poder para determinar o tamanho da amostra, tendo em consideração o nível do alfa (usualmente .05, bilateral) e de potência (usualmente 80% ou 90%).

No presente RCT, foi calculado o tamanho da amostra de forma a podermos avaliar a eficácia preliminar da intervenção no resultado primário (i.e., no stress parental). Assim, concluiu-se que seria necessária uma amostra de pelo menos 30 participantes por condição, que completassem o segundo momento de avaliação (tamanho do efeito médio [d = .25], com um poder estatístico de .80, num teste bicaudal, p < .05). Considerando que a taxa de desistência das intervenções psicológicas online autoguiadas é elevada (> 50%; e.g., Geraghty et al., 2010), foi necessário recrutar, pelo menos, 200 participantes para a aleatorização.

2.3. Variáveis e instrumentos de avaliação

Em todos os estudos empíricos, as variáveis dependentes, independentes e mediadoras foram recolhidas dos participantes, que forneceram dados sociodemográficos, clínicos e especificamente relacionados com a pandemia de COVID-19. Os participantes que constituem as amostras do presente trabalho de investigação responderam a protocolos de avaliação constituídos por fichas de dados e questionários de autorresposta, para avaliar as diferentes variáveis incluídas nos estudos empíricos delineados. Este método de avaliação foi escolhido tendo em conta a sua relação custo-benefício (i.e., menor perda de tempo e de recursos financeiros). Em todos os protocolos desenvolvidos atendeu-se ao facto destes deverem ser breves e específicos para as amostras em causa.

As fichas de dados (fichas de dados sociodemográficos, clínicos, e relacionados com a pandemia de COVID-19) incluíam questões simples e de resposta rápida para avaliação de variáveis objetivas necessárias (e.g., estado civil) e de variáveis subjetivas incluídas nos nossos estudos empíricos para as quais ainda não existiam instrumentos específicos (e.g., preferências dos pais relativamente a aspetos específicos de intervenções parentais baseadas na parentalidade mindful [Estudo Empírico V]). Estas fichas de dados foram desenvolvidas pelos investigadores, tendo como base a literatura prévia desenvolvida com população no período pós-parto (e.g., Fonseca et al., 2020; Monteiro et al., 2019).

Os instrumentos de autorresposta foram selecionados tendo em conta os seguintes critérios metodológicos: (i) operacionalização multidimensional dos construtos avaliados, permitindo uma avaliação de construtos de funcionamento psicológico tanto positivos como negativos, bem como de processos e mecanismos explicativos de mudança; (ii) dimensão curta, permitindo uma avaliação breve e económica de um maior número de variáveis/dimensões e minimizando o cansaço associado ao preenchimento de questionários de autorresposta; (iii) disponibilidade de versões traduzidas e adaptadas para a língua portuguesa de Portugal (à exceção da Escala de Ansiedade Específica do Pós-parto, que se encontra em processo de validação para a população portuguesa); e (iv) propriedades psicométricas robustas, ou seja, instrumentos cuja fiabilidade e validade foram confirmadas previamente em estudos psicométricos, sempre que possível com amostras portuguesas.

No Quadro 3 encontram-se apresentadas as diferentes fichas de dados e os questionários de autorresposta utilizados, bem como as variáveis avaliadas em cada estudo empírico que compõe este trabalho.

Quadro 3. *Variáveis Avaliadas e Instrumentos de Avaliação Utilizados em cada Fase de Investigação e Estudo Empírico*

		Fase de investigação					
		II				**III**	
		Estudos Empíricos					
Variáveis	**Instrumentos de avaliação**	**I**	**II**	**III**	**IV**	**V**	**VI**
Informação sociodemográfica, clínica, e relacionada com a pandemia de COVID-19							
Dados sociodemográficos e clínicos	Fichas de dados, desenvolvidas pelos investigadores, de acordo com os objetivos da investigação	■	■	■	■	■	■
Dados relativos à pandemia de COVID-19	Fichas de dados, desenvolvidas pelos investigadores, de acordo com os objetivos da investigação		■	■	■		■
Parentalidade							
Stress parental	Escala de Stress Parental (PSS, Mixão et al., 2010; Berry & Jones, 1995)	■	■	■			■
Conhecimento sobre parentalidade mindful	Questões desenvolvidas pelos investigadores, de acordo com os objetivos de investigação					■	
Parentalidade mindful	Escala de Mindfulness Interpessoal na Parentalidade - Versão Bebé (IM-P-I, Caiado et al., 2020; Duncan, 2007)	■	■	■	■		■

Ligação mãe-bebé	Questionário de Ligação ao Bebé após o Nascimento (PBQ, Nazaré et al., 2012; Brockington et al., 2006)		■	■			■
Perceção do temperamento do bebé	Questão desenvolvida pelos investigadores, de acordo com os objetivos de investigação	■					
	Questionário de Temperamento Difícil do bebé (DITQ, Azevedo, 2005; Macedo et al., 2011)						■
Processos de regulação emocional							
Autocompaixão	Escala de Autocompaixão - Versão Breve (SCS-SF, Castilho et al., 2015; Raes et al., 2011)			■	■		■
Mindfulness disposicional	Escala de Atenção e Consciência Plena (MAAS, Gregório & Pinto-Gouveia, 2013; Brown & Ryan, 2003)						■
Funcionamento psicológico							
Experiência emocional no período pós-parto	Questões desenvolvidas pelos investigadores, de acordo com os objetivos de investigação					■	
Sintomatologia depressiva e ansiosa	Escala de Ansiedade e Depressão Hospitalar (HADS, Pais-Ribeiro et al. 2007; Snaith & Zigmond 1994)	■	■	■			■
Sintomatologia depressiva no período pós-parto	Escala de Depressão Pós-Parto de Edimburgo (EPDS, Figueiredo, 1997; Cox et al., 1987)				■	■	■
Sintomatologia ansiosa no período pós-parto	Escala de Ansiedade Específica do Pós-parto (PSAS, Moreira & Fonseca, 2022; Fallon et al., 2016)				■		
Procura de ajuda							
Comportamentos de procura de ajuda	Questões desenvolvidas pelos investigadores, de acordo com os objetivos de investigação					■	
Barreiras percebidas na procura de ajuda	Escala de Barreiras (O'Mahen & Flynn, 2008), versão adaptada ao contexto pós-parto					■	
Aceitabilidade e preferências (intervenções parentais baseadas na parentalidade mindful)							
Aceitabilidade	Questões desenvolvidas pelos investigadores, de acordo com os objetivos de investigação					■	
Preferências	Questões desenvolvidas pelos investigadores, de acordo com os objetivos de investigação					■	

Viabilidade, aceitabilidade e usabilidade do Mindful Moment							
Viabilidade, aceitabilidade e usabilidade do Mindful Moment	Questões desenvolvidas pelos investigadores, de acordo com os objetivos de investigação						

De seguida, é apresentada uma descrição detalhada de cada variável avaliada e respetiva medida de avaliação utilizada neste trabalho de investigação. De notar que os valores de fiabilidade (i.e., os valores de alfa de Cronbach) encontrados nas amostras dos diferentes estudos empíricos que compõem este trabalho de investigação são descritos na secção do Método dos respetivos estudos, no Capítulo IV.

2.3.1. Informação sociodemográfica, clínica, e relacionada com a pandemia de COVID-19

A informação sociodemográfica e clínica dos participantes foi recolhida através de fichas de dados desenvolvidas pelos investigadores, de acordo com os objetivos de cada estudo do presente projeto de investigação.

Relativamente à **informação sociodemográfica**, e uma vez que todas as amostras foram constituídas por mães de bebés, as participantes preencheram itens que incluíam informação sobre a **mãe**: (1) idade (anos); (2) situação profissional (empregada/desempregada, doméstica, mãe a tempo inteiro, estudante) - de notar que no Estudo Empírico II e III, a questão previamente apresentada conteve outras opções de resposta, devido à situação pandémica no momento de recolha da amostra (a trabalhar, no local de trabalho/teletrabalho/licença de apoio a um filho menor [< 12 anos], após o fecho das escolas/lay-off/desempregada, doméstica, mãe a tempo inteiro, estudante/baixa médica); (3) estado civil (vive com o(a) companheiro(a)/não vive com o(a) companheiro(a)); (4) nível de escolaridade (básico ou secundário/superior); (5) rendimento líquido mensal do agregado familiar (inferior a 2000€/superior a 2000€); (6) área de residência (urbana/rural); e (7) tipo de família (monoparental/nuclear/reconstituída/alargada); (8) licença de maternidade (sim/não); e informação sobre o **bebé**: (1) idade (meses) e (2) género (feminino/masculino).

A **informação clínica** recolhida incluía itens acerca de (1) gravidez desejada (sim/não); (2) gravidez planeada (sim/não); (3) método de conceção (espontâneo/medicamente assistido); (4) complicação obstétrica (na mãe/no bebé); (5) paridade (primípara/multípara); (6) número de filhos(as) (um(a) filho(a)/mais do que um filho(a)); (7) problema psicológico e/ou psiquiátrico prévio (sim/não); (8) problema psicológico e/ou psiquiátrico atual (sim/não); (9) problema

psicológico e/ou psiquiátrico desde o nascimento do bebé (sim/não); e (10) tratamento psicológico e/ou psiquiátrico atual (sim/não).

Além disso, nos Estudos Empíricos II, III, IV e VI foi ainda recolhida **informação relativa à pandemia de COVID-19**. As questões foram desenvolvidas com base nas orientações da Direção Geral da Saúde (DGS) (DGS, 2020a, 2020b, 2020c, 2020d, 2020e).

Especificamente, no Estudo Empírico II, foi recolhida informação sobre (1) o momento do nascimento do bebé ("O seu bebé nasceu durante a atual pandemia de COVID-19?" [sim/não]); (2) o acompanhamento durante o parto ("Foi possível a mãe ter tido um acompanhante durante o parto?" [sim/não]); (3) a permanência com o bebé depois do parto ("Pôde estar com o bebé depois do parto?" [sim/não]); (4) a adoção de medidas extraordinárias na interação mãe-bebé no pós-parto ("Foram tomadas medidas extraordinárias [e.g., uso de máscara, impossibilidade de receber visitas] relativamente à interação com o bebé por causa da COVID-19?" [sim/não]); (5) a perceção de dificuldades acrescidas no pós-parto ("Sentiu mais dificuldades no pós-parto [e.g., dificuldades na relação conjugal, nas relações familiares, em prestar cuidados ao bebé, em lidar com as suas emoções] devido à implementação do Estado de Emergência nacional?" [sim/não]); e (6) preocupações acrescidas com o bebé ("Devido à situação de pandemia atual, sente-se mais preocupada que o habitual com os cuidados ao bebé?" [sim/não]).

Nos Estudos Empíricos III e VI foi obtida informação sobre (1) o diagnóstico à COVID-19 ("Relativamente à COVID-19, indique qual das seguintes opções a caracteriza" [saudável/ contacto com um caso positivo/recuperada]; (2) pertencer a um grupo de risco para a COVID-19 ("Pertence a algum grupo de risco para a COVID-19, de acordo com a Direção Geral da Saúde (i.e., é portadora de uma doença cardíaca, diabetes, ou doença pulmonar)?" [sim/não]); e (3) o bebé ter sido infetado com COVID-19 ("O seu bebé foi infetado com COVID-19?" [sim/não]).

Por fim, no Estudo Empírico IV, foi obtida informação sobre (1) o diagnóstico à COVID-19 antes do parto ("Qual o resultado do teste realizado à COVID-19 antes do parto?" [infetada com COVID 19/não infetada com COVID-19] - de notar que as regras implementadas pela DGS nesta fase da pandemia, exigiam que todas as grávidas, antes do parto, realizassem um teste de rastreio à COVID-19) – e sobre (2) o impacto emocional negativo da pandemia ("Considera que a atual pandemia teve um impacto negativo no seu bem-estar emocional durante o pós-parto?" [sim/não]).

2.3.2. Parentalidade

Stress parental. Para avaliar o stress parental foi utilizada a Escala de Stress Parental (*Parenting Stress Scale* [PSS], Berry & Jones, 1995; Versão Portuguesa [VP], Mixão et al., 2010). A versão

portuguesa do instrumento contém 18 itens (e.g., “Estou contente no meu papel de pai (mãe)") respondidos numa escala de resposta de cinco pontos, variando de 1 (*Discordo totalmente*) a 5 (*Concordo totalmente*). A escala é composta por quatro dimensões que avaliam o stress associado ao papel parental: Preocupações Parentais (i.e., preocupações suscitadas pelo papel parental; e.g., “Ter um filho(s) tem sido um peso financeiro”), Satisfação (i.e., satisfação no desempenho do papel parental; e.g., “Gosto de passar tempo com o(s) meu(s) filho(s)”), Falta de Controlo (i.e., falta de controlo percebido pelos pais no desempenho do seu papel parental; e.g., “Eu sinto-me oprimido(a) pela responsabilidade de ser pai (mãe)”), e Medos e Angústias (i.e., emoções negativas suscitadas pelo papel parental; e.g., “Às vezes penso se faço o suficiente pelo(s) meu(s) filho(s)”). A pontuação total é calculada através da soma dos itens, com pontuações mais elevadas indicativas de níveis mais elevados de stress parental, após inverter os itens negativos. De acordo com Mixão (2007), pode ser considerado um ponto de corte, em que pontuações no PSS < 41 correspondem a níveis baixos de stress parental e pontuações no PSS ≥ 41 correspondem a níveis moderados ou elevados de stress parental. A versão portuguesa do instrumento, validada numa amostra de pais de crianças/adolescentes entre um mês e 15 anos de idade, apresenta propriedades psicométricas adequadas, incluindo fiabilidade e validade de construto (Mixão et al., 2010).

Conhecimento sobre parentalidade mindful. Para avaliar o conhecimento das participantes relativamente ao conceito de parentalidade mindful, foram desenvolvidas duas questões pelos investigadores: (1) "Já ouviu falar em parentalidade mindful ou parentalidade consciente?” (sim/não); e (2) "Considera que aplica os princípios da parentalidade mindful ou parentalidade consciente na relação com o seu bebé?" (sim/não).

Parentalidade mindful. Para avaliar a parentalidade mindful, foi utilizada a Escala de Mindfulness Interpessoal na Parentalidade - Versão Bebé (*Interpersonal Mindfulness in Parenting Scale – Infant version* [IM-P-I], Duncan, 2007; VP: Caiado et al., 2020). A versão portuguesa do instrumento contém 28 itens, pontuados numa escala de resposta de cinco pontos, que varia entre 1 (*Nunca verdadeiro*) e 5 (*Sempre verdadeiro*). Esta escala avalia cinco competências de parentalidade mindful em cinco subescalas: 1) Escutar com Atenção Plena (e.g., “Dou por mim a prestar pouca atenção ao meu bebé, porque estou ocupada a fazer ou a pensar noutra coisa ao mesmo tempo”), Consciência Emocional da Criança (e.g., “É difícil para mim perceber o que o meu bebé está a sentir”), Autorregulação na Relação Parental (e.g., “Quando estou aborrecida com o meu bebé, apercebo-me de como me estou a sentir antes de agir”), Aceitação Não Ajuizadora do Funcionamento Parental (e.g., “Eu costumo criticar-me a mim própria por não ser o tipo de mãe

que gostaria de ser"), e Compaixão pela Criança (e.g., "Eu sou carinhosa para o meu bebé quando ele está choroso, agitado ou incomodado com alguma coisa"). O instrumento permite o cálculo das pontuações de cada subescala através da soma dos itens que as constituem, bem como o cálculo de uma pontuação total, através do somatório de todos os itens do instrumento, após a inversão dos itens negativos. Pontuações mais elevadas indicam níveis mais elevados de parentalidade mindful. No caso das mães terem mais do que um filho, estas eram instruídas para responder especificamente em relação ao bebé com idades entre os zero e os 18 meses, consoante o estudo em que este instrumento foi aplicado. A adaptação e validação da versão portuguesa do instrumento demonstrou propriedades psicométricas adequadas, incluindo fiabilidade e validade de construto (Caiado et al., 2020).

Ligação mãe-bebé. O Questionário de Ligação ao Bebé após o Nascimento (*Postpartum Bonding Questionnaire* [PBQ], Brockington et al., 2006; VP: Nazaré et al., 2012), foi utilizado para avaliar a ligação entre a mãe e o bebé. A versão portuguesa do instrumento contém 12 itens (e.g., "Gostaria de regressar à altura em que ainda não tinha este bebé"), pontuados numa escala de resposta de seis pontos, que varia entre 0 (*Nunca*) e 5 (*Sempre*). Este instrumento de autorresposta foi desenvolvido com o objetivo de identificar perturbações precoces na relação que a mãe estabelece com o seu bebé, através da avaliação da frequência de respostas cognitivas e emocionais da mãe em relação ao bebé. Especificamente, na versão portuguesa do instrumento, estas respostas são avaliadas através de vários indicadores, tais como o distanciamento emocional (i.e., ausência total ou baixa frequência de sentimentos positivos e proximidade da mãe com o bebé), frustração (i.e., irritabilidade da mãe na interação com o bebé e existência de sentimentos de falta de confiança na prestação de cuidados ao bebé), rejeição (i.e., arrependimento por parte da mãe pelo nascimento do bebé e o desejo de atribuir as tarefas de prestação de cuidados a outra pessoa), e agressividade (i.e., desejo ou impulso de magoar o bebé) (Nazaré et al., 2012). Após inverter os itens negativos, é possível obter uma pontuação total, calculada através da soma dos itens, com pontuações mais elevadas a indicar uma ligação mãe-bebé mais perturbada ou disfuncional. A versão portuguesa do instrumento demonstrou boa fiabilidade, validade de construto, convergente e discriminante (Nazaré et al., 2012).

Perceção do temperamento do bebé. Com o objetivo de avaliar a perceção do temperamento do bebé por parte das mães, no Estudo Empírico I, os investigadores desenvolveram uma questão de autorresposta ("De uma forma geral, considera o temperamento do seu bebé:"), respondido numa escala de resposta de quatro pontos (1 = *Muito difícil*; 2 = *Difícil*; 3 = *Fácil*; 4 = *Muito fácil*). No Estudo Empírico VI, e com o objetivo de avaliar a mesma variável, foi utilizado o Questionário

do Temperamento Difícil do Bebé (*Difficult Infant Temperament Questionnaire* [DITQ], VP: Azevedo, 2005; Macedo et al., 2011). Este questionário avalia a perceção sobre as características e comportamentos do bebé, através de oito itens, pontuados numa escala de resposta de seis pontos, variando entre 1 (*Nunca*/*Quase nunca*) e 6 (*Sempre*/*Quase sempre*) (e.g., Acha que o seu bebé é irritável ou rabugento?"). A pontuação total é calculada através da soma das pontuações nos oito itens. Uma pontuação mais elevada está associada a um temperamento mais difícil do bebé (percecionado pela mãe). A versão portuguesa do instrumento demonstrou propriedades psicométricas adequadas, incluindo boa fiabilidade (Macedo et al., 2011).

2.3.3. Processos de regulação emocional

Autocompaixão. Para avaliar a autocompaixão das mães, foi utilizada a Escala de Autocompaixão – Versão Breve (*Self-Compassion Scale – Short Form* [SCS-SF], Raes et al., 2011; VP: Castilho et al., 2015). Este instrumento contém 12 itens (e.g., "Desaprovo-me e faço julgamentos acerca dos meus erros e inadequações") respondidos numa escala de resposta de cinco pontos, variando entre 1 (*Quase nunca*) a 5 (*Quase sempre*), avaliando a forma como a mãe se comporta em momentos difíceis. Apesar de ser uma medida unidimensional, avalia os seis componentes da autocompaixão (dois itens por componente): calor/compreensão, autocrítica, humanidade comum, isolamento, mindfulness e sobreidentificação. Após a inversão dos itens negativos, é possível obter uma pontuação global de autocompaixão através do cálculo da média dos 12 itens, com pontuações mais elevadas a indicar níveis mais elevados de autocompaixão. A versão portuguesa do instrumento foi amplamente utilizada em estudos anteriores, inclusive no período pós-parto (e.g., Monteiro et al., 2019), e demonstra boas qualidades psicométricas, tais como fiabilidade e validade convergente (Castilho et al., 2015).

Mindfulness disposicional. Para avaliar o traço de mindfulness das mães foi utilizada a versão portuguesa da Escala de Atenção e Consciência Plena (*Mindful Attention Awareness Scale* [MAAS], Brown & Ryan, 2003; VP: Gregório & Pinto-Gouveia, 2013). Este instrumento contém 15 itens (e.g., "Acho difícil permanecer concentrada no que está a acontecer no momento presente"), respondidos numa escala de resposta de seis pontos, que varia entre 1 (*Quase sempre*) e 6 (*Quase nunca*). Este instrumento avalia um construto unidimensional, essencialmente os aspetos ligados a um estado recetivo da mente, em que a atenção é informada por uma consciência sensível ao que ocorre no momento presente, simplesmente observando o que ocorre a cada momento. É possível obter uma pontuação total da escala através do somatório de todos os itens, com valores superiores a indicar níveis mais elevados de mindfulness disposicional. Este instrumento

demonstrou propriedades psicométricas adequadas na versão portuguesa, nomeadamente fiabilidade e validade de construto (Gregório & Pinto-Gouveia, 2013).

2.3.4. Funcionamento psicológico

Experiência emocional no período pós-parto. Para avaliar a experiência emocional das mães no período pós-parto, os investigadores desenvolveram questões acerca das dificuldades gerais e emocionais das participantes. Primeiro, foi apresentada uma lista de diversas dificuldades gerais ("Desde que o seu bebé nasceu já sentiu: a) dificuldades na relação conjugal, b) dificuldades na relação com os seus familiares, c) dificuldades na prestação de cuidados ao bebé, d) dificuldades em lidar com as suas emoções, e) sensação de incompetência enquanto mãe, e f) stress"), sendo solicitado às participantes que selecionassem todas as opções que se aplicassem a si. Segundo, foi realizada a questão "Caso tenha sentido alguma das dificuldades apresentadas na questão anterior, alguma vez sentiu que essas dificuldades interferiram no desempenho do seu papel de mãe?" (sim/não). Por fim, para avaliar especificamente as dificuldades emocionais das participantes, foi questionado: (1) "Desde que o bebé nasceu, tem-se sentido mais triste, ansiosa ou stressada do que o habitual?" (sim/não); e (2) "Se respondeu "Sim" na questão anterior, considera que o facto de se sentir mais triste, ansiosa ou stressada está relacionado com dificuldades que sente em lidar com o seu bebé e/ou com o seu papel de mãe?" (sim/não).

Sintomatologia depressiva e ansiosa. A versão portuguesa da Escala de Ansiedade e Depressão Hospitalar (*Hospital Anxiety and Depression Scale* [HADS], Snaith & Zigmond, 1994; VP: Pais-Ribeiro et al., 2007) foi utilizada para avaliar os níveis de sintomatologia depressiva e ansiosa das mães, considerando a última semana. Este instrumento contém 14 itens, que permitem avaliar dois fatores: 1) depressão (e.g., "Ainda sinto prazer nas coisas de que costumava gostar") e 2) ansiedade (e.g., "Sinto-me tensa ou nervosa"), utilizando uma escala de resposta de quatro pontos, que varia entre 0 e 3. É possível obter uma pontuação total de cada fator através da soma dos itens correspondentes, com pontuações mais elevadas a indicar níveis mais elevados de sintomatologia depressiva ou ansiosa. Pontuações entre 0 e 7 são consideradas "normais"; entre 8 e 10, "ligeiras"; entre 11 e 14, "moderadas"; e entre 15 e 21, "graves". De acordo com Snaith (2003), pontuações iguais ou superiores a 11 indicam a possível presença (i.e., "*caseness*") de uma perturbação do humor. Esta escala demonstrou ser um bom instrumento de rastreio em diferentes populações clínicas, com propriedades psicométricas robustas numa vasta gama de populações e culturas, incluindo na população portuguesa, em que apresenta fiabilidade adequada e validade de construto (Pais-Ribeiro et al., 2007).

Sintomatologia depressiva no período pós-parto. Para avaliar os sintomas depressivos das mães no período pós-parto, foi utilizada a versão portuguesa da Escala de Depressão Pós-parto de Edimburgo (*Edinburgh Postnatal Depression Scale* [EPDS], Cox et al., 1987; VP: Figueiredo, 1997). Este instrumento contém 10 itens (e.g., "Tenho tido esperança no futuro"), sendo pedido aos participantes para avaliar as suas emoções (e.g., tristeza, ansiedade) durante os sete dias anteriores, usando uma escala de resposta de quatro pontos (variando entre 0 e 3). A pontuação total da escala é obtida através do somatório dos seus itens, após inversão dos itens negativos, com pontuações mais elevadas a indicar níveis mais elevados de sintomatologia depressiva. De acordo com os estudos da validação portuguesa da escala, uma pontuação ≥ a 10 é indicativa de sintomas depressivos clinicamente relevantes (Figueiredo, 1997). Esta escala é amplamente utilizada no rastreio de sintomas depressivos no período pós-parto, sendo que a versão portuguesa da escala apresenta boas qualidades psicométricas tais como boa fiabilidade (Figueiredo, 1997).

Sintomatologia ansiosa no período pós-parto. Para avaliar a frequência de sintomatologia ansiosa experienciada durante os últimos sete dias e relacionada com o papel parental e com o bebé nos primeiros seis meses após o parto, foi utilizada a Escala de Ansiedade Específica do Pós-parto (*Postpartum Specific Anxiety Scale* [PSAS], Fallon et al., 2016; VP: Moreira & Fonseca, 2022), na sua versão original, após tradução para a língua portuguesa pela equipa de investigação. Este instrumento contém 51 itens (e.g., "Tenho-me preocupado com a possibilidade de magoar acidentalmente o meu bebé"), respondidos numa escala de resposta de quatro pontos, variando entre 1 (*Nada*) e 4 (*Quase sempre*). É possível obter uma pontuação total da escala, após inverter os itens negativos, através da soma de todos os itens, com as pontuações mais elevadas a indicar níveis mais elevados de sintomatologia ansiosa. De acordo com a versão original da escala, uma pontuação ≥ a 112 é indicativa de sintomas de ansiedade clinicamente relevantes. Este instrumento demonstrou boas qualidades psicométricas, nomeadamente fiabilidade e validade de construto (Fallon et al., 2016).

2.3.5. Procura de ajuda

Comportamentos de procura de ajuda. Para avaliar os comportamentos de procura de ajuda das mães para lidar com as suas dificuldades emocionais, dificuldades na relação mãe-bebé e parentalidade, foram desenvolvidas questões baseadas na literatura prévia sobre o tema (Cauce et al., 2002; Fonseca et al., 2015; McGarry et al., 2009). Especificamente, foram realizadas duas questões: (1) "Alguma vez procurou ou pensou em procurar ajuda por causa das dificuldades que

sente em lidar com o seu bebé ou com o seu papel de mãe?" (sim/não); e (2) "Que tipo de ajuda pediu?" (membro da família/amigo(a)/médica/psicológica/outro).

Barreiras percebidas na procura de ajuda. Para avaliar as barreiras percebidas na procura de ajuda das mães para lidar com as suas dificuldades emocionais, dificuldades na relação mãe-bebé e parentalidade, as participantes responderam a uma versão adaptada da Escala de Barreiras (O'Mahen & Flynn, 2008), tendo em consideração o contexto específico do período pós-parto e a revisão da literatura prévia nessa área (e.g., Fonseca et al., 2015). Esta escala é constituída por 13 itens acerca de barreiras atitudinais (e.g., "Ter receio do que a minha família e/ou amigos possam pensar de mim por frequentar um programa de intervenção psicológica"), de conhecimento (e.g., "Não saber se os meus problemas são suficientemente graves para pedir ajuda"), e práticas/estruturais (e.g., "Não ter possibilidade de pagar a intervenção"). Foi solicitado aos participantes que avaliassem até que ponto cada item (barreira) os impediria de procurar ajuda para lidar com as suas dificuldades emocionais no período pós-parto. Os itens foram avaliados utilizando uma escala de resposta de três pontos (0 = *Não se aplica a mim*; 1 = *Aplica-se moderadamente a mim*; 2 = *Aplica-se muito a mim*), em que valores mais elevados indicam uma maior perceção da barreira correspondente.

2.3.6. Aceitabilidade e preferências relativamente a intervenções parentais baseadas na parentalidade mindful

Aceitabilidade. A aceitabilidade das mães relativamente a intervenções parentais baseadas na parentalidade mindful (i.e. as suas crenças sobre se uma intervenção parental baseada na parentalidade mindful é adequada para si e para o seu bebé, e se esta corresponde às suas expectativas do que deveria envolver; Kazdin, 1980; Sekhon et al., 2017), foi avaliada através de um conjunto de questões desenvolvidas pela equipa de investigação, baseadas em estudos prévios (e.g., Fonseca & Canavarro, 2017; Monteiro et al., 2020), relativas à perceção de utilidade dessas intervenções: (1) "Acha que seria útil participar numa intervenção que tivesse como objetivo desenvolver algumas competências de mindfulness na relação com o seu bebé (e.g., uma maior capacidade de estar presente quando interage com o bebé, de perceber as suas emoções e as emoções do seu bebé)?" (sim/não); (2) "Acha que uma intervenção que tivesse como objetivo desenvolver competências de mindfulness na relação com o seu bebé seria útil?" (para todos os pais no período pós-parto/apenas para os pais com níveis moderados ou elevados de stress parental); (3) "Consideraria útil existirem intervenções psicológicas que ajudassem os pais a lidar melhor com eventuais dificuldades que sintam na relação com o bebé e/ou com o seu papel de

pai/mãe, no período pós-parto?" (sim/não). Por fim, foi ainda realizada uma questão sobre a disponibilidade das mães para participar numa intervenção psicológica (4) "Estaria disponível para participar num programa de intervenção psicológica que a ajudasse a lidar melhor com o stress parental no período pós-parto?" (sim/não).

Preferências. Para avaliar as preferências das mães (i.e., as características consideradas ideais numa intervenção parental aplicada no período pós-parto), foram desenvolvidas questões pelos investigadores, baseadas na literatura prévia sobre intervenções parentais (e.g., Mejia et al., 2015) e o período pós-parto (e.g., Goodman, 2009). Avaliaram-se dois tipos de preferências: relativas à **divulgação** (informação e meios de informação) e relativas às características da intervenção (**formato** e **conteúdo**).

No que diz respeito às preferências relativas à **divulgação**, (1) foi apresentada uma lista de afirmações com as informações que as participantes consideravam essenciais receber para aumentar a probabilidade da sua participação ("Que informação acha que seria essencial receber acerca do programa, de forma a tornar mais provável a sua participação?" [e.g., receber informação sobre quem desenvolveu o programa (autores e instituições envolvidas)]), sendo solicitado que as participantes selecionassem todas as opções que se aplicassem a si; (2) posteriormente, foram apresentadas diversas opções relativamente à probabilidade de participar na intervenção, se a informação sobre a mesma fosse fornecida através de diferentes meios ("Qual a probabilidade de participar no programa se ele lhe fosse sugerido por:" [e.g., psicólogo, internet, amigos]) - esta questão deveria ser respondida numa escala de resposta de três pontos (0 = *Nada provável*; 1 = *Pouco provável*; 2 = *Muito provável*), em que pontuações mais elevadas indicam uma maior probabilidade de participação na intervenção.

As preferências relativas às características da intervenção, foram avaliadas em termos de formato e conteúdo. As preferências de **formato** incluíram características gerais, tais como: (1) o número de sessões (entre uma e 10); (2) a frequência das sessões (diária/semanal/mensal); (3) a duração de cada sessão (entre 30 e 45 min/entre 45 e 60 min/entre 60 e 90 min/entre 90 e 120 min); (4) a preferência de levar o bebé para a sessão ou deixá-lo em casa/na creche (preferia levar o meu bebé comigo/preferia deixar o meu bebé em casa/na creche); (5) o momento preferido para iniciar a participação no programa de intervenção (entre um e 12 meses depois do nascimento do bebé); e (6) o local ideal para participar no programa de intervenção (centro de saúde/maternidade/outro local). As preferências de **conteúdo** incluíram a avaliação: (1) da perceção de utilidade das características informativas e interativas de uma intervenção parental (e.g., poder falar com um psicólogo sobre dúvidas e preocupações relacionadas com o bebé e a relação pai/mãe-bebé); e (2) da perceção da utilidade de conteúdos específicos da intervenção

(e.g., informação sobre como melhor compreender as emoções do bebé), ambas as questões avaliadas numa escala de resposta de cinco pontos (0 = *Nada útil*; 1 = *Pouco útil*; 2 = *Moderadamente útil*; 3 = *Muito útil*; 4 = *Extremamente útil*), sendo que pontuações mais elevadas revelam uma maior perceção de utilidade relativamente ao conteúdo apresentado.

2.3.7. Viabilidade, aceitabilidade e usabilidade do Mindful Moment

Viabilidade, aceitabilidade e usabilidade do Mindful Moment. Em primeiro lugar, a viabilidade do Mindful Moment (i.e., a exequibilidade da intervenção; Gadke et al., 2021) foi avaliada através das taxas de adesão (i.e., número de participantes que completaram a intervenção) e de desistência (i.e., número de participantes que desistiram do estudo antes de completarem a intervenção). Esta informação foi recolhida através do website do Mindful Moment, tendo em conta o número de módulos do programa completados e das páginas acedidas em cada módulo.

Em segundo lugar, para avaliar a aceitabilidade do Mindful Moment (i.e., avaliação acerca da adequabilidade do Mindful Moment para a mãe e para o seu bebé, e se este correspondeu às suas expectativas; Kazdin, 1980; Sekhon et al., 2017), o grupo experimental completou um conjunto de questões adicionais (em T2), desenvolvido pelos investigadores, relativamente à aceitabilidade e usabilidade do Mindful Moment. Especificamente, foi solicitado às participantes que respondessem a questões, relativas (1) à satisfação com a ajuda fornecida pelo programa (e.g., "No Mindful Moment, eu recebi o tipo de ajuda que esperava ou desejava"); (2) à intenção de utilizar novamente o programa, se necessário (e.g., "Eu voltaria a usar o Mindful Moment, se estivesse novamente numa situação semelhante"); (3) à probabilidade de recomendação do Mindful Moment a uma amiga ("Eu recomendaria o Mindful Moment a uma amiga que estivesse numa situação semelhante"); e (4) à utilidade e relevância da informação aprendida no programa (e.g., "Sinto que a participação no Mindful Moment me ajudou a cuidar melhor do meu bebé e a relacionar-me melhor com ele"). Todas as questões foram respondidas numa escala de resposta de dois pontos (0 = *Não se aplica de todo a mim/Aplica-se pouco a mim*; 1 = *Aplica-se muito a mim/Aplica-se totalmente a mim*), com uma pontuação total mais elevada a indicar maior nível de aceitabilidade do Mindful Moment.

A usabilidade (i.e., a medida em que uma intervenção pode ser utilizada para atingir objetivos específicos com eficácia, eficiência e satisfação; Lyon et al., 2021) do Mindful Moment foi avaliada através de diversas questões, relativamente (1) a aspetos gerais do website e do seu funcionamento (e.g., "O aspeto gráfico do Mindful Moment (e.g., ilustrações, cores utilizadas) é atrativo"), e (2) em relação a cada módulo e exercícios práticos (e.g., "O número de módulos do Mindful Moment é adequado"; "Os exercícios propostos foram difíceis de realizar na presença do

bebé"). Por fim, foram apresentadas diversas afirmações sobre a perceção de utilidade do programa (e.g., "O Mindful Moment ajudou-me a ter interações mais positivas com o bebé"). Todas estas questões deveriam ser respondidas numa escala de resposta de três pontos (0 = *Discordo*; 1 = *Não discordo nem concordo*; 2 = *Concordo*), com uma pontuação total mais elevada a indicar maior nível de usabilidade do Mindful Moment.

2.4. Opções estatísticas e metodológicas

Nesta secção serão apresentadas algumas considerações gerais sobre as principais opções estatísticas utilizadas no tratamento dos dados e sobre as opções metodológicas que guiaram, de forma transversal, a execução da presente investigação, nomeadamente: 1) análises descritivas; 2) análises de comparação; 3) análises das relações e dos mecanismos entre as variáveis; 4) análise de dados do ensaio clínico aleatorizado; e (5) significância estatística e magnitude do efeito.

Os procedimentos estatísticos e metodológicos utilizados para a concretização dos objetivos específicos de cada estudo empírico são apresentados em maior detalhe nas respetivas secções metodológicas de cada estudo (cf. Capítulo IV).

A análise de dados de todos os estudos empíricos foi realizada através do recurso ao software SPSS (*Statistical Package for the Social Sciences*; IBM SPSS, Chicago, IL - versão 22.0 ou versão 25.0). Além disso, foi também utilizado o software AMOS 22 (IBM® SPSS® AMOS™, versão 22.0) [Estudo Empírico I] e a macro para o SPSS – PROCESS (Hayes, 2013) [Estudo Empírico III e IV].

2.4.1. Análises descritivas

Em todos os estudos empíricos, utilizou-se estatística descritiva (frequências relativas, médias e desvios-padrão) para a caracterização dos participantes das diferentes amostras recrutadas, assim como das variáveis em estudo.

2.4.2. Análises de comparação

A análise de comparação entre grupos realizou-se através da utilização de testes de comparação de médias e análises de variância, adequadas ao tipo de variáveis em estudo: testes de qui-quadrado (χ^2) para as variáveis categoriais; testes *t* para as variáveis contínuas; análises univariadas da variância (ANOVAs); e análises multivariadas da variância (MANOVAs), às quais se

seguiam ANOVAs, uma para cada variável dependente, no caso de ser encontrado um efeito multivariado significativo.

2.4.3. Análises das relações e dos mecanismos entre as variáveis

De um modo geral, a estratégia analítica utilizada para responder aos objetivos desta investigação pretendeu possibilitar uma melhor compreensão da complexidade das relações entre as variáveis maternas, as variáveis da relação mãe-bebé e as variáveis relativas à parentalidade. Dada a interrelação das variáveis parentais e individuais e a existência de mecanismos que permitem a compreensão e explicação de determinada relação entre as variáveis, e que permitem promover uma parentalidade mindful e compassiva, foram privilegiadas análises de trajetórias diretas e indiretas (i.e., *path analysis*).

As análises de trajetórias permitem explorar modelos de relação entre as variáveis com base em teorias pré-existentes, utilizando um método estatístico confirmatório, ao invés do método exploratório utilizado na estatística clássica (Marôco, 2021). Deste modo, podem ser utilizadas com dados transversais, uma vez que a direção das associações entre as variáveis é levantada como hipótese com base em fundamentos teóricos sólidos (Hayes, 2013; Lei & Wu, 2007). Assim, as análises das relações e dos mecanismos entre as variáveis neste trabalho de investigação foram realizadas com o auxílio a técnicas estatísticas diversificadas, tais como: Modelos de Equações Estruturais (MEE), análises de regressão hierárquica, e análises de mediação simples e sequencial. De seguida, serão apresentadas cada uma destas técnicas estatísticas.

Modelos de equações estruturais. No Estudo Empírico I pretendeu-se explorar dados transversais num modelo complexo, colocado como hipótese com base no estado de arte existente acerca das variáveis em causa. Assim, utilizou-se um MEE e obteve-se informação acerca da qualidade do ajustamento do modelo global, que incluiu construtos multidimensionais (e.g., parentalidade mindful). As análises estatísticas no MEE foram realizadas com o método de estimação de máxima verosimilhança e matriz de variância-covariância e a interpretação do ajustamento do modelo foi realizada com base numa combinação de vários índices de qualidade de ajustamento (Hu & Bentler, 1999). Assim, no estudo empírico mencionado, foi utilizado o teste do qui quadrado (χ^2), a Raiz do Quadrado Médio Residual (*Standardized Root Mean Square Residual* – SRMR), o Índice de Ajustamento Comparativo (*Bentler Comparative Fit Index* – CFI), e a Raiz do Erro Quadrático Médio de Aproximação (*Root Mean Square Error of Approximation* – RMSEA). Os critérios para considerar um ajustamento do modelo aceitável ou bom foram, respetivamente: teste de qui-

quadrado não significativo ($p > .05$), valores de CFI iguais ou superiores a .95, valores de SRMR iguais ou inferiores a .08, e valores de RMSEA iguais ou inferiores a .06 e associados a um $p \leq .05$ (Hu & Bentler, 1999). Por fim, para estimar os efeitos indiretos e os respetivos intervalos de confiança foram utilizadas sintaxes definidas pelo investigador (i.e., *AMOS user-defined estimand*). A significância estatística dos efeitos indiretos foi estimada com o procedimento de *Bootstrap* com 5000 amostras e um intervalo de confiança de 95% (*95% Bias-Corrected Confidence Interval – BC95%CI*).

Análises de regressão hierárquica. No Estudo Empírico II foram utilizadas análises de regressão hierárquica, através das quais foi explorado o papel explicativo de uma ou mais variáveis independentes na ocorrência de uma variável dependente. No caso específico da regressão hierárquica, é possível especificar a ordem com que as variáveis independentes são introduzidas na equação de regressão, examinando-se assim a importância (i.e., a variância adicional explicada) de cada variável ou bloco de variáveis na predição da variável dependente (Field, 2018). Embora não seja possível assumir uma determinada direção entre as variáveis utilizando dados transversais, é possível explorar a relação existente entre elas. Na regressão hierárquica a ordem de introdução das variáveis independentes na equação de regressão é definida pelo investigador com base na teoria pré-existente, utilizando-se um método confirmatório. No caso do Estudo Empírico II, foi inicialmente inserida a informação relacionada com a pandemia de COVID-19, depois foram inseridas variáveis associadas à saúde mental materna e, por fim, as dimensões da parentalidade mindful, a fim de compreender a variância explicada por todas estas variáveis na ligação mãe-bebé.

Análises de mediação simples e sequencial. Nos Estudos Empíricos III e IV foram utilizadas análises de mediação, com o objetivo de explicar de que forma (como ou porquê) a variável independente influência a variável dependente. Uma variável mediadora funciona como um mecanismo que explica a relação entre duas ou mais variáveis (MacKinnon et al., 2007). Assim, o efeito de mediação ocorre quando existe um efeito indireto significativo, ou seja, um efeito da variável independente na variável dependente através do(s) mediador(es). Na presente investigação, examinámos o efeito indireto com base no procedimento de *Bootstrap*, um procedimento não paramétrico de reamostragem, através do qual são construídas subamostras a partir da amostra original (nos estudos deste projeto de investigação este método foi realizado com 10000 amostras; Hayes, 2013). De acordo com Preacher e Hayes (2008), este procedimento é recomendado para modelos de regressão, uma vez que produz uma aproximação mais precisa

à estatística de interesse através da obtenção de intervalos de confiança, permitindo diminuir a probabilidade do erro de tipo I.

Nesta investigação foram explorados modelos de mediação simples (Estudo Empírico IV), e modelos de mediação sequencial (Estudos Empíricos III). Nos modelos de mediação simples, pretende-se testar um efeito indireto com um único mediador; por sua vez, na mediação sequencial é testado sequencialmente o efeito de mais do que um mediador em série. Através do modelo de mediação sequencial é possível explorar o efeito direto e indireto de uma variável independente numa variável dependente, com a variável independente a causar o primeiro mediador, que tem um efeito no segundo mediador, e assim sucessivamente, até ao último mediador considerado, ter um efeito na variável dependente (Hayes, 2013).

2.4.4. Análise de dados do ensaio clínico aleatorizado

Princípio *intention-to-treat*. O princípio *intention-to-treat* (ITT) implica que todos os participantes que foram aleatorizados sejam incluídos na análise de dados, de acordo com os grupos aos quais foram originalmente alocados. Mesmo os participantes do grupo experimental que não completaram um número mínimo de módulos da intervenção, ou aqueles que desistiram da intervenção, devem ser avaliados em todos os momentos de avaliação e incluídos em todas as análises (McCoy, 2017).

Segundo McCoy (2017), este princípio é o método mais apropriado para preservar a comparabilidade dos grupos que resulta da aleatorização inicialmente feita, evitando o enviesamento e fornecendo uma base segura para testes estatísticos. O princípio ITT produz uma estimativa imparcial da eficácia da intervenção sobre o resultado primário do estudo ao nível da adesão observada no ensaio clínico. Assim, caso a intervenção em estudo seja eficaz, mas exista uma baixa adesão dos participantes, a análise baseada no princípio ITT subestimará a magnitude do efeito da intervenção. Este método de análise resulta numa estimativa precisa e imparcial.

Valores em falta. Na maioria dos RCT's os valores em falta (*missing values*) e as desistências são muito comuns. Especificamente as intervenções psicológicas baseadas na web são um caso particular onde as taxas de desistências são muito elevadas (Lawler et al., 2021). Ainda que não exista uma solução estatística recomendada para análises baseadas no princípio ITT de Ensaios Clínicos Aleatorizados, onde exista valores em falta, os modelos lineares mistos (*Linear Mixed Models* [LMMs]) demonstraram fornecer testes mais poderosos do que outros métodos (e.g., ANOVA, após imputação múltipla; Chakraborty & Gu, 2009) e, por isso, foram os modelos utilizados.

De acordo com Rubin (1976), existem 3 mecanismos principais através dos quais os valores em falta ocorrem, incluindo 1) os valores em falta completamente devido ao acaso (*Missing Completely at Random* [MCAR]), 2) os valores em falta ao acaso (*Missing at Random* [MAR]), e 3) os valores em falta não devidos ao acaso (*Missings not Missing at Random* [NMAR]). Os LMMs podem ser utilizados para analisar dados correlacionados, desde que os dados em falta satisfaçam as assunções MCAR ou MAR. Esta abordagem permite incluir todos os participantes do ensaio na análise independentemente da desistência, obtendo uma estimativa imparcial do efeito causal médio desde que a hipótese aleatória se mantenha (Siddiqui et al., 2009). Os modelos mistos são particularmente úteis em cenários onde são feitas medições repetidas nas mesmas unidades estatísticas e podem tratar os valores em falta com um mínimo de parcialidade, cumprindo assim o princípio ITT ao analisar os resultados de um RCT (Bono et al., 2021). O termo "modelo misto" refere-se à utilização de efeitos aleatórios e fixos num só modelo, que podem ser pensados hierarquicamente. Um nível para os sujeitos (efeitos aleatórios) e outro nível para as medições dentro dos sujeitos (efeitos fixos). Os efeitos aleatórios representam a variabilidade geral entre sujeitos, e os efeitos fixos dizem respeito à diferença de médias entre os diferentes grupos de estudo.

2.4.5. Significância estatística e magnitude do efeito

Nesta investigação foi utilizado o nível de significância convencional de $\alpha = .05$ para avaliar a significância estatística dos resultados encontrados (i.e., existe 5% de probabilidade de rejeitar uma hipótese nula verdadeira, que corresponde ao erro de tipo I). Uma vez que o nível de significância depende não apenas da magnitude do efeito (*effect size*), mas também do tamanho da amostra, a significância estatística não indica necessariamente relevância clínica, pelo que a APA (APA, 2020) recomenda reportar igualmente a magnitude do efeito.

A magnitude do efeito indica a força da associação entre duas variáveis (i.e., assinala a magnitude relativa da diferença entre médias ou do total de variância da variável dependente que é explicada pelos níveis da variável independente), sendo, assim, um indicador relevante do poder estatístico (Field, 2018). Em cada estudo empírico foi então reportada a magnitude do efeito dos resultados encontrados, como indicador da relevância prática dos resultados (i.e., se o efeito do resultado encontrado foi pequeno, médio ou grande). Assim, foram utilizados os seguintes indicadores de magnitude do efeito: para os testes de comparação de variáveis contínuas (testes *t* de Student) e categoriais (testes de qui-quadrado) foram utilizados, respetivamente, o *d* de Cohen e o *V* de Cramer; o eta-quadrado parcial (η^2_p) para as análises de variância (univariada e multivariada); o coeficiente de correlação de Pearson (*r*) para as análises de correlação (variáveis

contínuas); o coeficiente de correlação bisserial (r_{pb}) (variáveis categoriais); e o coeficiente de determinação (R^2) para as análises de regressão linear (Cohen, 1988).

2.5. Considerações éticas

Os procedimentos adotados durante a conceptualização e implementação do presente projeto de investigação, bem como na publicação e divulgação dos seus resultados, foram conduzidos em conformidade com as recomendações éticas relativas à investigação com participantes humanos de associações científicas de referência, nacionais (OPP; Regulamento nº 258/2011, 20 de Abril de 2011, revisto em 2016; OPP, 2021) e internacionais (os princípios éticos da APA relativos à investigação com participantes humanos; APA, 2017); e a declaração da Associação Médica Mundial de Helsínquia; 1964, revista em 2013; World Medical Association, 2013). Ainda que todas estas entidades profissionais promovam a investigação médica e psicológica com seres humanos, para melhor compreender as causas, desenvolvimento e impacto da doença e melhorar as intervenções, enfatizam a importância de qualquer trabalho de investigação dar prioridade aos direitos, dignidade e interesse primário dos participantes face aos objetivos da investigação.

Assim, este projeto de investigação seguiu os princípios éticos fundamentais para a investigação com seres humanos, nomeadamente 1) o *princípio de competência*, que estabelece que os psicólogos só devem conduzir investigação com populações e áreas científicas dentro dos limites da sua competência, e recomenda aos investigadores o investimento em formação teórica e prática especializada e constantemente atualizada; 2) os *princípios de beneficência* e *não maleficência*, que recomenda aos investigadores a procura de benefícios para os participantes, salvaguardando o seu bem-estar e assegurando que os procedimentos de investigação não lhes causem qualquer dano físico ou psicológico; 3) o *princípio de respeito pelos direitos, dignidade e bem-estar*, que estabelece que os investigadores devem respeitar os direitos dos participantes à privacidade, confidencialidade e autodeterminação; 4) os *princípios de integridade* e *responsabilidade social*, para a produção e divulgação de conhecimentos científicos exatos, honestos e verdadeiros que possam contribuir para a melhoria da saúde e bem-estar das populações visadas.

Os investigadores envolvidos em todo o processo de investigação detêm qualificação e competência para o desenvolvimento do mesmo, sendo graduados em Psicologia Clínica - Mestrado Integrado em Psicologia [Psicologia Clínica e da Saúde], Especialidade em Intervenções Cognitivo-Comportamentais nas Perturbações Psicológicas e Saúde. Além disso, todos os investigadores envolvidos no projeto de investigação eram competentes na área científica

específica deste estudo, com experiência prévia em prática clínica com mulheres no período perinatal. Ao longo do tempo, os investigadores reviram literatura relevante para melhorar o seu conhecimento conceptual e metodológico e participaram em conferências, cursos de curta duração e workshops. Desta forma, foi possível assegurar o princípio ético de competência.

Inicialmente, durante a fase de conceptualização deste projeto de investigação, e seguindo o princípio de beneficência e não maleficência, a equipa de investigação refletiu sobre a relevância dos objetivos da investigação, a consistência das opções metodológicas e os potenciais riscos e benefícios para os participantes. Para além de ser revista literatura específica, foram ainda discutidos estes tópicos com outros profissionais de saúde envolvidos no projeto e outros investigadores do grupo de investigação da linha de investigação RD&S. Desta forma, foi possível tomar decisões sobre os procedimentos de investigação, nomeadamente sobre a extensão e sobrecarga relacionados com os protocolos de avaliação, tendo em consideração a disponibilidade limitada dos pais e das mães, no período pós-parto. Assim, as fichas de dados e questionários incluídos nos protocolos de investigação foram desenvolvidos com o foco de recolher as informações estritamente necessárias para atingir os objetivos de investigação e evitar a recolha de informações redundantes e supérfluas. Além disso, os instrumentos de avaliação foram cuidadosamente selecionados, sendo incluídas as suas versões breves, sempre que se encontravam disponíveis. Por fim, os protocolos de avaliação, assim como uma descrição detalhada de todo o projeto de investigação, foram submetidos à apreciação e aprovação pela Comissão de Ética da FPCE-UC e Comissão de Ética da ARS do Centro.

De seguida, a fase de recolha de dados, desenvolvida em conformidade com os procedimentos anteriormente descritos nesta dissertação (cf. ponto 2.2.), teve em consideração o princípio geral do respeito pelos direitos, dignidade e bem-estar dos participantes. Para tal, foram disponibilizadas informações aos participantes sobre a investigação, especificamente a relevância do projeto de investigação e os seus objetivos; o papel dos investigadores, incluindo as suas obrigações éticas, filiações institucionais e contactos; as fontes de financiamento do projeto de investigação; o papel dos participantes; os critérios de inclusão e exclusão; os procedimentos e duração prevista da recolha de dados (especificando os pontos de avaliação do estudo e a duração expectável do preenchimento dos protocolos); os possíveis riscos e benefícios do estudo; o carácter voluntário da participação e o facto de não contemplar compensação financeira; a confidencialidade das respostas e análise coletiva dos dados; o direito dos participantes de aceder, alterar, apagar e limitar o tratamento dos dados ou revogar o seu consentimento, contactando os investigadores do projeto; e o direito dos participantes se retirarem a qualquer momento do estudo sem penalização.

Uma vez que todas as amostras dos estudos empíricos foram recolhidas online, toda a informação foi fornecida através do web-link divulgado para o preenchimento do protocolo de avaliação, na plataforma Limesurvey®. Ao acederem ao web-link indicado, os potenciais participantes encontravam uma página introdutória que apresentava toda a informação previamente referida. Os participantes que concordassem com estas condições, foram convidados a dar o seu consentimento informado para participar no estudo, clicando na opção "Eu compreendo e aceito as condições do estudo".

Especificamente no Estudo Empírico VI, as participantes foram também informadas do procedimento de aleatorização e atribuição a um dos grupos de estudo [experimental ou controlo], explicitando-se as condições associadas à alocação em cada um dos grupos. A aleatorização foi assegurada por um investigador diferente do responsável pela avaliação da elegibilidade dos participantes e o processo de recrutamento. Este investigador não tinha qualquer informação sobre as participantes, à exceção do código gerado e atribuído a cada uma delas. Este código foi utilizado na aleatorização e cada código era, posteriormente, atribuído a um dos dois grupos do estudo. No final do estudo, foi oferecida às participantes do grupo de controlo a oportunidade de aceder ao Mindful Moment. Além disso, durante o ensaio clínico, as participantes que não preenchessem os critérios de inclusão recebiam feedback sobre as razões pelas quais não seriam incluídas no estudo. Relativamente às participantes excluídas do estudo por apresentarem uma condição médica grave (física ou psiquiátrica) foram fornecidas informações de contacto para procurar acompanhamento especializado. Ao longo do processo de investigação, a equipa de investigadores esteve disponível (via email ou contacto telefónico) para esclarecer dúvidas sobre aspetos gerais da investigação.

Por fim, a publicação e disseminação dos resultados entre a comunidade científica foi realizada através da publicação de artigos em revistas científicas internacionais revistas por pares, e da apresentação de comunicações orais e posters em reuniões científicas nacionais e internacionais, cumprindo-se os parâmetros internacionais de divulgação científica e os princípios éticos de integridade e responsabilidade social. Os resultados dos estudos foram derivados de dados originais, e não inventados ou distorcidos, e as análises de dados e divulgação dos resultados foram conduzidas com exatidão, honestidade e veracidade. Os resultados partilhados com a comunidade científica incluem os resultados não esperados ou conclusivos, ou que não apresentaram significado estatístico, utilizando sempre uma linguagem científica adequada. Como os conjuntos de dados dos estudos empíricos continham informações que poderiam comprometer a privacidade dos participantes na investigação, não foram disponibilizados ao público. No entanto, em todos os estudos empíricos é dada informação de que os conjuntos de dados estão disponíveis mediante um pedido justificável. Além disso, em cada estudo empírico,

as limitações que poderiam comprometer os resultados desse estudo em particular foram enumeradas em pormenor. Nos estudos empíricos, todas as ideias de terceiros que foram citadas foram devidamente atribuídas aos autores originais, a fim de evitar o plágio. As autorias dos estudos empíricos foram definidas de acordo com as contribuições científicas ou profissionais dos investigadores envolvidos em qualquer fase de investigação, independentemente do seu estatuto. As fontes de financiamento, filiações institucionais e conflitos de interesse foram declaradas em cada estudo empírico. No Estudo Empírico VI, para cumprir as orientações do CONSORT 2010 (Schulz et al., 2010) e evitar a comunicação seletiva de resultados, o RCT foi registado no ClinicalTrials.gov (NCT04892082) antes da sua implementação.

Os principais resultados deste projeto de investigação estão disponíveis na página web do CINEICC (https://cineicc.uc.pt/) e da linha de investigação RD&S (https://www.fpce.uc.pt/saude/).

Capítulo III | O Mindful Moment

1. O Programa Mindful Moment

O desenvolvimento, implementação e estudo da viabilidade, aceitabilidade e eficácia preliminar do programa Mindful Moment podem ser consultados em maior detalhe no Estudo Empírico VI da presente dissertação (cf. Capítulo IV).

O Mindful Moment é um programa interativo, online e autoguiado, de autoajuda, adotando uma abordagem *e-mental health*, no formato de intervenção psicológica mediada pela web ou intervenção psicológica online. Pretende disponibilizar estratégias promotoras de saúde mental e de uma parentalidade mindful e compassiva, a mães no período pós-parto (i.e., com um bebé entre os zero e os 18 meses), para que possam adaptar-se melhor a esse período e estabelecer uma relação mais segura e positiva com o bebé. Destina-se a mães, com idade igual ou superior a 18 anos que, por qualquer motivo, experienciem stress no exercício do seu papel parental e/ou dificuldades na relação que estabelecem com o bebé.

Figura 1. *Logotipo do Programa Mindful Moment*

1.1. Condições de acesso ao programa

O Mindful Moment (cujo logotipo está representado na Figura 1) pode ser utilizado preferencialmente no computador, mas também no tablet ou no telemóvel. Num primeiro momento, as mães deverão registar-se no website do programa (www.mindfulmoment.pt), através do seu e-mail e de uma palavra-passe à escolha. No momento do registo, são apresentados os termos de utilização e privacidade do Mindful Moment, elaborados ao abrigo do novo Regulamento Geral de Proteção de Dados [RGPD], que entrou em vigor a 25 de maio de 2018. Apenas as mães que concordarem e aceitarem os termos e condições referidos, poderão integrar e avançar no programa. De igual forma, a política de privacidade e cookies está também disponível, e pode ser consultada na página da Universidade de Coimbra (https://www.uc.pt/protecao-de-dados). Por fim, as mães são informadas de que o Mindful Moment lhes oferece estratégias preventivas e não curativas e, por isso, não é aconselhável nem dirigido a quem se encontre a sofrer intensamente de perturbação emocional, como depressão ou ansiedade acentuadas. Nesse caso, deverá ser procurada ajuda profissional especializada.

Posteriormente, as mães deverão iniciar sessão na sua conta para começar a utilizar o programa. Na página inicial do website, está disponível uma explicação breve acerca dos objetivos do programa e um "Formulário de ajuda", que poderá ser preenchido sempre que as mães considerarem necessário, quer para o esclarecimento de dúvidas, como partilha de sugestões e experiências.

1.2. Descrição do programa Mindful Moment

O programa Mindful Moment é constituído por seis módulos. Cada um dos módulos do programa tem a duração aproximada de uma hora e aborda um tema específico, disponibilizando exercícios práticos e estratégias que poderão ajudar as mães a lidar melhor com o stress parental e com a relação que estabelecem com o seu bebé.

O programa pode ser realizado ao ritmo que as mães pretenderem, sendo aconselhada a realização de um módulo por semana. Além disso, podem também focar-se mais nos temas que lhes parecerem mais pertinentes e úteis para si.

Todos os conteúdos e exercícios do Mindful Moment são baseados em desenvolvimentos recentes de terapias baseadas no mindfulness e na compaixão, especificamente adaptadas para o período pós-parto, nomeadamente o TPMB (Potharst et al., 2017, 2019), e TFC (Cree, 2010), e ainda na experiência clínica das investigadoras que desenvolveram o programa, com mulheres no período perinatal.

Ao longo do programa, as mães têm acesso a material em formato de texto, áudio e vídeo. Todos os módulos se iniciam com um vídeo, realizados pela investigadora de referência deste projeto de investigação, onde é feita uma breve introdução e explicação dos objetivos específicos do respetivo módulo. Posteriormente, os conteúdos e exercícios de cada módulo são apresentados através de texto, elementos visuais (e.g., imagens, esquemas) e áudios. No final de cada módulo, são recomendadas tarefas para as mães realizarem em casa, durante a semana, para que possam continuar a praticar as estratégias terapêuticas aprendidas no módulo realizado. O Mindful Moment contém psicoeducação, práticas de meditação formal (e.g., meditação da respiração), práticas de autocompaixão e exercícios de parentalidade mindful. À medida que cada módulo é finalizado, os exercícios práticos e leituras propostos ficam disponíveis para que as mães os possam repetir.

Os conteúdos e exercícios práticos de cada módulo estão descritos em maior detalhe no Quadro 1.

O Módulo 0 - *Introdução ao Mindful Moment* - corresponde a um módulo introdutório, no qual se encontram explicadas as características do programa relativamente à sua duração e

estrutura, sendo também abordados alguns aspetos práticos (e.g., sugestão de utilização de auscultadores na realização dos exercícios de áudio, de meditação; sugestão de utilização de um bloco de notas especificamente reservado para os exercícios e notas do Mindful Moment). No âmbito do Estudo Empírico VI - avaliação da viabilidade, aceitabilidade e eficácia preliminar do Mindful Moment - no final do Módulo 0, as mães tinham ainda acesso ao web-link do protocolo do primeiro momento de avaliação. Depois de visualizarem este módulo inicial e de preencherem o protocolo de avaliação, as mães podem avançar para os seis módulos do programa, de imediato (grupo experimental) ou no final do estudo (grupo de controlo em lista de espera).

No Módulo 1 - *Parentalidade mindful e stress parental* - as mães são convidadas a refletir sobre o desafio da parentalidade, especialmente no pós-parto. Neste módulo é disponibilizada psicoeducação sobre a parentalidade mindful e o stress parental, e ferramentas para que as mães desenvolvam a sua capacidade de estar atentas e conscientes do momento presente (através da prática de mindfulness). Pretende-se, assim, que as mães consigam gerir melhor o stress parental, aprendam a responder de forma mais adaptativa em situações stressoras de interação mãe-bebé, e adotem uma parentalidade mais consciente com o seu bebé.

No Módulo 2 - *Observar o bebé como se fosse a primeira vez: A Mente de principiante* - as mães refletem sobre o modo como veem os seus bebés, e aprendem a mudar o foco da sua atenção para os aspetos positivos do mesmo. Neste módulo é disponibilizada psicoeducação sobre os sinais do bebé e são praticados diversos exercícios que pretendem ajudar as mães a reconhecer e responder sensivelmente aos sinais do bebé, sem julgamento e sem os rotular. Ao praticarem meditação, as mães poderão cultivar uma atenção aberta e curiosa, que poderá ajudá-las a sair do estado de piloto automático e a agir conscientemente no exercício da sua parentalidade.

No Módulo 3 - *Autocompaixão e autocuidado* - as mães são convidadas a refletir e a praticar autocompaixão (i.e., o reconhecimento de que se está a experienciar dificuldades, e o desenvolvimento de uma atitude de maior amizade com o próprio, nesses momentos difíceis e de maior sofrimento). A autocompaixão é um recurso psicológico fundamental, que permite às mães desenvolver uma atitude mais bondosa e menos autocrítica, especialmente relevante considerando o seu papel parental. Neste módulo são também disponibilizadas estratégias de autocuidado.

No Módulo 4 - *Parentalidade reativa vs. parentalidade responsiva* - está disponível psicoeducação sobre as diferentes respostas ao stress que as mães poderão experienciar no exercício do seu papel parental. Neste módulo são sugeridos e praticados exercícios que ensinam as mães a reconhecer os sinais do bebé e a responder de forma mais consciente, e menos reativa

e automática. Neste módulo são ainda disponibilizados exercícios que ajudam as mães a ser mais responsivas e menos reativas na relação com o bebé.

No Módulo 5 - *Eu e os outros* - as mães são convidadas a refletir sobre a forma como se relacionam com os outros no seu papel de mãe, assim como na relação de coparentalidade. São ainda disponibilizados e praticados alguns exercícios que poderão ajudar as mães a pedir ajuda mais eficazmente e a estar em maior sintonia consigo mesmas, com o seu bebé e com os outros. As mães praticam ainda a bondade amorosa.

Finalmente, no Módulo 6 **-** *Parentalidade mindful para o resto da vida* - são disponibilizados exercícios e estratégias para que as mães adotem uma parentalidade consciente para o resto da vida. Proporciona-se um momento de reflexão sobre a experiência das mães ao longo deste programa e sobre as mudanças que notaram em si e na relação que estabelecem consigo mesmas, com o seu bebé e com os outros.

No final do programa, as mães poderão ter acesso a uma área denominada *Exercícios & Leituras*, onde estão disponíveis os conteúdos práticos de todos os módulos, para que possam realizar futuramente, sempre que desejarem. Ao longo de todo o programa é reforçada a prática dos exercícios propostos, diariamente ou com a maior frequência que a mãe conseguir, para que possa interiorizar as estratégias e utilizá-las com maior eficácia.

Quadro 1. *Conteúdos e Exercícios do Mindful Moment*

Módulo do programa	Conteúdos	Exercícios
1 Parentalidade mindful e stress parental	Psicoeducação e exercícios sobre parentalidade mindful e stress parental, para que as mães possam aprender a responder de forma mais adaptativa a situações de stress na interação mãe-bebé	- Introdução e vídeo inicial - Exercício 0 "O que pretendo com a participação no Mindful Moment?" - Exercício 1.1 "Bebé a chorar" - Exercício 1.2 "Espaço de respiração de 3 minutos" - Diário da gratidão - Exercício 1.3 "Meditação sentada com a atenção na respiração" - Dificuldades durante a prática - Prática diária/Trabalho de casa
2 Observar o bebé como se fosse a primeira vez: A mente de principiante	Psicoeducação e exercícios focados na vinculação e nos sinais do bebé, para que as mães possam reconhecê-los mais facilmente e ser mais responsivas, libertando-se de julgamentos e rótulos	- Introdução e vídeo inicial - Exercício 2.1 "Meditação sentada com o seu bebé, com a atenção na respiração" - O círculo da segurança - Exercício 2.2 "Observar o círculo da segurança" - Exercício 2.3 "Observar o meu bebé: Meditação da visão com a atenção focada no bebé" - Conhecer os sinais do bebé - Prática diária/Trabalho de casa

3 Autocompaixão e autocuidado	Psicoeducação sobre a compaixão, e exercícios para promover uma atitude de bondade e autocuidado nas mães, especialmente no desempenho do seu papel parental	- Introdução e vídeo inicial - Exercício 3.1 "Bebé de uma amiga a chorar" - O que é a autocompaixão? - Exercício 3.2 "Espaço de respiração e meditação da autocompaixão" - Limites: Quando termina a mãe e começa o bebé - Exercício 3.3 "Autocuidado - Do que é que eu preciso?" - Prática diária/Trabalho de casa
4 Parentalidade reativa vs. parentalidade responsiva	Psicoeducação sobre a resposta ao stress e exercícios de mindfulness, para promover uma maior regulação em situações de stress na interação com o bebé	- Introdução e vídeo inicial - A parentalidade responsiva vs. parentalidade reativa - Exercício 4.1 "Espaço de respiração mãe-bebé" - Conflito e reparação - Exercício 4.2 "Distância e proximidade" - Prática diária/Trabalho de casa
5 Eu e os outros	Psicoeducação e exercícios sobre as relações que as mães estabelecem com os outros, no seu contexto de maternidade. É também abordada a coparentalidade, i.e., a partilha e entreajuda com o(a) companheiro(a) na prestação de cuidados ao bebé	- Introdução e vídeo inicial - O impacto dos outros na parentalidade - A importância do apoio social e como pedir ajuda - Exercício 5.1 "O que é que eu preciso dos outros?"" e Exercício 5.2. "Como pedir ajuda?" - Coparentalidade - Exercício 5.3 "Observar a coparentalidade" e Exercício 5.4 "Escrever sobre a coparentalidade" - Exercício 5.5 "Prática da bondade amorosa ou meditação metta" - Prática diária/Trabalho de casa
6 Parentalidade mindful para o resto da vida	Indicações e exercícios para promover a adoção de uma parentalidade mindful para o resto da vida	- Introdução e vídeo inicial - Exercício 6.1 "Meditação da montanha" - Exercício 6.2 "O que aprendeu com o Mindful Moment?" - Plano de meditação para o resto da sua vida - Exercício 6.3 "Um desejo para si mesma" - Prática diária/Trabalho de casa

Tal como descrito no Estudo Empírico VI, o Mindful Moment foi avaliado através de um RCT piloto, que demonstrou a viabilidade e aceitabilidade do programa, numa amostra de mães no período pós-parto, que experienciavam níveis moderados ou elevados de stress parental. Além disso, e apesar de apenas 21.2% das mães terem completado o programa, este demonstrou ser eficaz na redução do stress parental, e na promoção do mindfulness disposicional e de uma perceção materna do temperamento do bebé como menos difícil (cf. Estudo Empírico VI).

Capítulo IV | Revisão Sistemática da Literatura e Estudos Empíricos

Revisão Sistemática da Literatura

Mindfulness- and compassion-based parenting interventions applied to the postpartum period: A systematic review

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Mindfulness- and compassion-based parenting interventions applied to the postpartum period: A systematic review

Abstract

The postpartum period involves several psychological and emotional challenges for parents that can interfere with the quality of parent-infant interactions, which may have negative consequences for the child development and parental mental health. Mindfulness- and compassion-based parenting interventions may help parents develop adaptive parenting skills and adjust better to the parental role during this period, since mindfulness and compassion are considered modifiable and protective skills that allow parents to better regulate their emotions in parenting and to establish a secure relationship with the infant. We conducted a systematic review, according to the PRISMA guidelines, to comprehensively examine the evidence regarding the effect of those interventions applied to the postpartum period. A systematic search of all papers published prior to December 2019 was conducted in four electronic databases. Empirical studies published in peer-reviewed journals with postpartum parents who participated in a mindfulness- and compassion-based intervention were included. After screening 1651 references, we identified nine eligible studies in nine journal articles. The intervention programs were mainly mindfulness-based, with 8 to 12 weekly sessions delivered in a group format. Most of them were conducted with samples of mother-infant dyads, and the baby was present in some or all intervention sessions. The interventions mainly used mindfulness-based formal and informal meditations, interactive play and group discussion and were associated with the promotion of parental skills and the quality of parental caregiving. Although there is insufficient evidence about the efficacy and effectiveness of the interventions, this systematic review suggests that there are several mindfulness- and compassion-based parenting interventions using different therapeutic techniques that seem to be beneficial for promoting positive parental skills and the quality of parent-infant relationships in the early parenting years, including the postpartum period.

***Keywords**:* Mindful Parenting; Compassionate Parenting; Parenting intervention; Postpartum period; Systematic Review

Highlights

Mindfulness- and compassion-based parenting interventions may promote positive parenting skills in the postpartum period. Mindfulness- and compassion-based parenting interventions may enhance the quality of parent-infant relationships in the postpartum period. Additional rigorous trials applied to postpartum parents that focus on promoting parenting skills and the quality of the parent-infant relationship are needed.

Introduction

The birth of a baby is often a joyous but also stressful event, once caregivers find themselves involved in a new role and childcare responsibilities (Gillath et al., 2016; Missler et al., 2018). The simple fact of not knowing how to interact with infants may lead mothers and fathers feel stress and decrease the quality of the parent–infant interactions (Chung et al., 2018), which may result in long-term disturbances of the parent-child relationship and, consequently, have a negative impact in the child's social-emotional development (Lehnig et al., 2019; Olsavsky et al., 2020).

In the postpartum period (i.e., the 12 months after delivery; Berens, 2018), a baby depends on his or her caregiver to provide emotional support and to ensure that the baby can engage with others and elicit positive affect and responsive behaviors (Senese et al., 2018; Tronick & Beeghly, 2011). When the parent-infant relationship is characterized by a lack of warm and positive interactions, children's risk of developing behavioral and emotional problems and establishing insecure attachments with their caregivers increases (Oates, 2007). The capacity to be sensitive (i.e., to have the ability to adequately perceive and respond to the baby's signals; Ainsworth et al., 1978) has been identified as one of the most robust predictors of the development of a secure attachment bond between the parent and the child (Bakermans-kranenburg et al., 2003; Tharner et al., 2012). Likewise, when the caregiver is responsive (i.e., responds appropriately to the infant's signals), this promotes healthy infant's adjustment (Senese et al., 2018). Therefore, sensitivity and responsiveness to the child are considered the two fundamental qualities that determine the caregiver's ability to provide effective care (World Health Organization [WHO], 2004) and are essential to potentiate the quality of parent-child relationships (Oates, 2007).

Because the quality of the early parent-child relationship has long-term consequences for the well-being (Shaddix & Duncan, 2016) and the development of the child (Miller et al., 2011), it is essential to promote a "smooth transition" into parenthood (Amin et al., 2018; Bakermans-

Kranenburg et al., 2019). Furthermore, it is essential to help parents establish a secure relationship with their baby by developing sensitive and responsive parenting skills and adaptative strategies to cope with the challenges of the postpartum period (Bakermans-kranenburg et al., 2003; Chung et al., 2018). Two well-known protective psychological resources (Kabat-Zinn, 2003; Neff & Germer, 2013) that can be highly beneficial for parents experiencing postpartum challenges are mindfulness (i.e., the capacity to pay non-judgmental attention to the present moment; Brown & Ryan, 2003), and self-compassion (i.e., the attitude of kindness toward one's suffering and desire to relieve it; Neff, 2003, 2009; Neff & Vonk, 2009).

The application of mindfulness to the parenting context - mindful parenting - can be defined as a way of parenting that involves bringing mindful awareness to parent-child interactions (Bögels & Restifo, 2014). Therefore, mindful parenting reflects the parents' capacity to interact with the child in a more accepting, emotionally attuned, and compassionate way (Coatsworth et al., 2018) and encompasses several aspects, such as *listening with full attention to the child*; *self-regulation in the parenting relationship*; *emotional awareness of the child*; *compassion for the child* and a *non-judgmental acceptance of parental functioning* (de Bruin et al., 2014; Duncan et al., 2009; Moreira & Canavarro, 2017). The quality of the parent-child relationship can be improved through the promotion of these dimensions (Duncan et al. 2009), and because mindful parenting is characterized by parenting practices that promote responsive and sensitive care to the child's needs, evidence suggests that it may facilitate the establishment of secure relationships as well (Medeiros et al., 2016). Similarly, self-compassion is another key factor for positive parenting because it helps parents to know that it is not unusual to experience difficult and unwanted feelings in the postpartum period and that an attitude of support toward themselves may help them deal with the inherent challenges of that period (Cree, 2015). Additionally, self-compassion has been associated with positive parent and child outcomes, such as less parenting stress, better well-being for children (Moreira et al., 2015) and higher levels of mindful parenting (Moreira et al., 2016).

In recent years, mindfulness-based interventions have been shown to improve postnatal outcomes, decrease parental stress, improve parental well-being and promote better parent–child interactions (Whittingham, 2016). Several mindfulness-based parenting interventions have been adapted specifically to the perinatal period, such as the Mindfulness-Based Childbirth and Parenting (MBCP) (Duncan & Bardacke, 2010), which resulted in perceived benefits by the participants of the use of mindfulness practices for their emotional well-being and the quality of the parent-infant relationship; the Mindfulness-Based Childbirth Education (MBCE) (Byrne et al., 2014), which resulted in lower levels of anxiety in the postpartum period; and the Mindful with Your Baby Training (MYBT) (Potharst et al., 2017), which resulted in several benefits, such as lower

levels of parenting stress, hostility and parental psychopathological symptoms, namely anxiety and depression, and higher levels of mindfulness, self-compassion, mindful parenting, well-being, parental confidence and responsivity. Regarding compassion-based interventions, in 2010, a compassion focused therapy was developed for the perinatal period (Cree, 2010) that aimed to teach mothers how to shift their relationship with themselves from one of shame and blame to one of kindness, nonjudgment and compassion (Cree, 2015).

Nonetheless, most of the existing mindfulness-based interventions applied to the postpartum period have focused on maternal psychopathology and psychopathological symptoms and not on promoting parenting skills and improving the quality of parent-infant interaction, as has been shown by several systematic reviews focused on the mindfulness-based interventions [MBI's] for the perinatal period (Shi & MacBeth, 2017; Shorey et al., 2019; Taylor et al., 2016). To the best of our knowledge, only one systematic review aimed to systematically evaluate how effective mindful parenting programs were in improving the quality of the parent-child relationship as well other outcomes, including children's, adolescents' and parents' wellbeing, emotional and attention regulation, resilience and mindfulness abilities (Townshend et al., 2016). Although the authors had included parents of children aged between 0 and 18 years who had completed a mindful parenting program, none of the included studies were applied to parents in the postpartum period.

Despite the relevance of these reviews, which showed a great diversity of intervention programs with a wide variety of samples and outcomes, there is no systematic review of the existing mindfulness- and compassion-based parenting interventions applied specifically to the postpartum period. Given the importance of the postpartum period for the development of a secure parent-child relationship and for the development of the child, it is critical to systematically evaluate the effect and comprehensively review and synthesize the published literature on mindfulness- and compassion-based interventions that aim to promote parenting skills and the quality of caregiving among parents of babies. Hence, in this systematic review, we considered parenting interventions as interventions that have a central focus on parenting and have as their primary goal the promotion of positive child outcomes by enhancing parents' capacity to provide their young children with the sensitive and responsive care (National Center for Parent, Family and Community Engagement, 2015), through the development of mindfulness and compassion skills. Therefore, mindfulness- and compassion-based interventions that can promote adaptive coping strategies, especially those related to parent-infant interaction (Ponomartchouk & Bouchard, 2015; Shaw et al., 2006) and a more positive parenting style (Reedtz et al., 2011; Waterston et al., 2009) were considered.

Specifically, the primary objective of this systematic review was to systematically evaluate the effect of mindfulness- and compassion-based parenting interventions applied to the postpartum period that aimed to promote parenting skills and enhance the quality of parental caregiving. The secondary objective was to comprehensively review and synthesize the types and characteristics of existing interventions (e.g., design, population, setting, intervention approach), and the therapeutic strategies used in each intervention.

Methods

We performed a systematic review according to the guidelines of Cochrane and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement (Liberati et al., 2009).

Data Sources and Search Strategy

A preliminary search of the literature in PROSPERO, JBI Database of Systematic Reviews and Implementation Reports, Cochrane Database of Systematic Reviews, MEDLINE (PubMed) and PsycINFO showed no protocol or systematic reviews focused on mindfulness- and compassion-based parenting interventions applied to the postpartum period (published or in process).

We considered only primary research studies in accordance with the aim of the review of avoiding duplicate reports from primary and review studies. The search was conducted without language restriction, but only articles written in English were considered for inclusion. Studies were unrestricted by the year of publication. The first author conducted a systematic search of all papers published prior to December 4, 2019, in four electronic databases, PsycINFO, PubMed (MEDLINE), Web of Science and EBSCOhost Psychology and Behavioral Sciences Collection, without date restrictions. The main search consisted of conjunctions of the following terms:

[(mother OR mothers OR father OR fathers OR parent* OR baby OR babies OR child OR children OR infant OR infants OR neonate OR neonates OR newborn OR newborns OR postpartum OR post-partum OR post partum OR postnatal OR post-natal OR post natal OR perinatal OR peri natal OR peripartum OR puerper* OR “transition to parenthood” OR birth OR “after birth” OR childbirth) AND (“parent* intervention” OR “parent* therapy” OR “parent* program” OR “parent* treat*” OR “parent* training” OR “parent* promotion” OR “parent* education”) AND (mindful OR mindfulness OR “mindful parenting” OR meditation OR compassi* OR self-compassi* OR kindness)].

This search strategy was used for all databases, with slight adaptations to fit different web interfaces. The detailed search strategy used for searching the PsycINFO database is presented (see Supporting information – Supplementary file 1).

Secondary reference searching was also conducted on the reference lists of the articles included in this review and in any systematic reviews/meta-analyses relevant to the research question.

Eligibility Criteria

The studies included in this systematic review met the following inclusion criteria based on PICOS (participants, interventions, comparators, outcomes, and study design) framework. This review considered studies that included parents of infants (0–12 months old) with women, men or both partners (independent of their sexual orientation) in the intervention session(s). Studies may include children with older age, since the postpartum period is included. Foster families and kinship caregivers were not considered an exclusion criterion. Regarding the intervention, group, or individual mindfulness- and compassion-based parenting interventions (e.g., Mindfulness-Based Stress Reduction [MBSR]; Acceptance and Commitment Therapy [ACT]) applied to parents in the postpartum period were considered. Interventions which have other components rather than mindfulness and compassion-based were not excluded. Studies reporting mindfulness- and compassion-based parenting interventions for parents who had experienced infant mortality or stillbirth were excluded. Additionally, this review considered studies of parenting interventions conducted in all care settings (e.g., primary care, community) in all countries. Eligible comparison control conditions could be active or inactive (e.g., participants receiving no treatment, waitlist control, treatment as usual [TAU] or alternative parent training programs). Studies without a control group (i.e., pre-post designs) were also included. Concerning the outcomes, this review considered studies that described mindfulness- and compassion-based parenting interventions applied to the first 12 months postpartum aimed at promoting adaptive parenting skills and improving the quality of parental caregiving. Mindful and compassionate parenting, parental sensitivity, and responsiveness were also considered main outcomes, even if they were mechanisms of change. Studies focusing on the prevention/treatment of depression or other psychopathological symptoms in the postpartum period were included if they have a clear focus on the promotion of parental skills and/or the enhancement of the parent-child relationship. In addition, interventions that were not focused on parenting (e.g., baby massage or breastfeeding interventions) were excluded. Interventions that began during pregnancy were also considered provided that some of the session(s), not only follow-up measure(s), also occurred in the first 12 months postpartum. Regarding the study design, empirical studies (qualitative, quantitative, or mixed methods) published in peer-reviewed journals were considered. Non-original research (e.g., article reviews, meta-analyses, book chapters or discussion articles), unpublished studies,

abstracts, communications, theses, case studies, ongoing studies, and descriptive studies were excluded.

Study Selection

After the research was conducted in the four databases, the bibliographic references were sent to the EndNote X7 bibliographic reference management program, and all duplicate articles were deleted using that program. In the first phase of screening, the first author (DVF) defined the search strategy, conducted the article search, reviewed the titles and abstracts of the resulting articles, assessed the studies for eligibility and decided whether to obtain the full text. The author used a data codification form using a template specifically designed for this review, that specified the information that should be recorded for each article in the first phase: information/title; name of first author; year of publication; type of publication; language; inclusion/exclusion decision/unclear; and notes (doubts, key words, purpose). Irrelevant records were discarded, and the full text was retrieved for all potentially relevant or unclear articles. In the second phase, the full texts were assessed by two authors independently (DVF and ARM). Disagreements were resolved through discussion and consensus between the reviewers, who met two times in person. A total agreement between the reviewers was achieved. Finally, each article that met the inclusion criteria was classified by the first author (DVF), and the second author (ARM) checked the extracted data; in case of doubt, the last author (HM) made the decision. The reference list of the full texts included in the review were analyzed, and the articles that met the inclusion criteria were included in the review. All authors reviewed the final tables.

Data Collection and Data Items

A data extraction form was developed using the Data Extraction Template for Included Studies (Ryan et al., 2018) as a guide. The data extraction form was pilot tested for feasibility and comprehensiveness with five studies and refined accordingly.

Extracted data included specific details on (i) authors; year of publication; country(ies); study population (e.g., mothers, fathers, couples, dyads...); psychopathology; whether participants receiving antidepressant or psychological treatment at baseline were excluded; sample size; dropout rates; attendance (average/number/percentage of sessions attended); children's age; setting; study design; control type; (ii) intervention approach; intervention name; curriculum by session presented in the article; administration method; number of sessions/length of the intervention; length of each session (hours); child included in session; location where the intervention was delivered; intervention facilitator; (iii) therapeutic goals; outcomes; outcome

measure; method of outcome assessment; post-intervention timing of the assessments; main results; and (iv) therapeutic strategies/techniques (e.g., psychoeducation) – type of activities.

Assessment of Risk of Bias

To assess the risk of bias of empirical studies, we used the Mixed-Methods Appraisal Tool (MMAT) (Hong et al., 2018), which is a critical appraisal tool designed for the appraisal stage of reviews that include qualitative, quantitative and mixed-methods studies. According to Hong et al. (2018; 2019), the MMAT can provide a more efficient appraisal by limiting to core criteria of heterogeneous methodologies. The risk of bias was appraised independently by the first and second authors. Discrepancies were resolved by discussion to reach consensus. Inter-rater agreement was calculated with Cohen's Kappa coefficient, considering $k < 0.00$ as *poor*, $k \leq 0.20$ as *slight*, $k \leq 0.40$ as *fair*, $k \leq 0.60$ as *moderate*, $k \leq 0.80$ as *substantial* and $k > 0.81$ as *almost perfect* agreement (Landis & Koch, 1977). The percentage of agreement was calculated to triangulate the k statistic, which has the limitation of being sensitive to cell size. No study was excluded based on the assessment of risk of bias, which was used to improve our understanding of the relative strengths and weaknesses of the evidence.

Analyses

We reported the study findings and conducted a narrative analysis based on the reported outcomes, guided by PRISMA statement (Liberati et al., 2009), as the review obtained information from a diverse body of evidence. Each included study was synthesized according to the structured data extraction form previously described. The range of parenting interventions and outcome measures of the included studies precluded meta-analysis.

Results

Study Selection

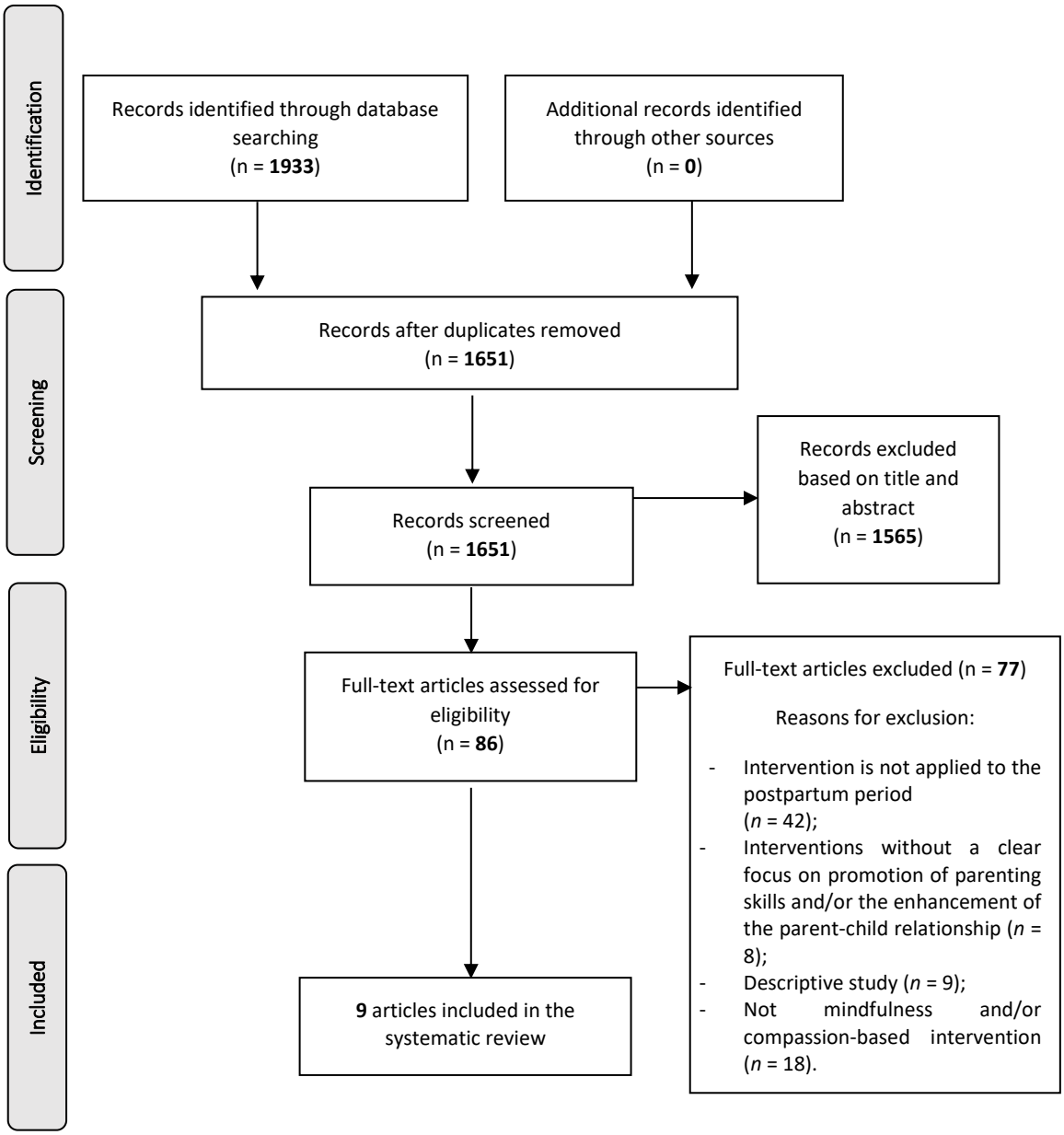
After duplicates were removed, a total of 1651 records were screened. Based on the title and the abstract, 1565 were excluded, with 86 full texts retrieved and assessed for eligibility. Of these, 77 were excluded (see Figure 1 for detailed exclusion). After the eligibility assessment, we identified nine studies in nine journal articles that we considered eligible for this systematic review. These nine studies included seven different interventions since the study of Gannon et al. (2017) and Gannon et al. (2019) describe the same intervention, as do the studies of Potharst et

al., (2017) and Zeegers et al. (2019). However, these studies described the same intervention in different samples and therefore were considered separately in the current review.

Inter-rater agreement of the full text included was calculated by Cohen's Kappa coefficient, and it was almost perfect (k = .865, p < .001).

Figure 1

PRISMA Flow Diagram of the Article Selection



Risk of Bias Within Studies

All studies obtained a positive response to the screening questions (i.e., "Are there clear research questions?" and "Do the collected data allow to address the research question?"). Thus,

the studies were assessed according to the appropriate category of study. Although the MMAT tool (Hong et al., 2018) does not suggest that researchers score the papers, the tables highlight the differences in the study quality. As presented in Table 1, the only qualitative study met all the criteria. None of the three quantitative randomized controlled trials fulfilled all the criteria, with the study of Perez-Blasco et al. (2013) fulfilling more criteria than the other studies (see Table 1). Two quantitative non-randomized controlled trials met almost all the criteria (Meschino et al., 2015; Zeegers et al., 2019), and two met all the criteria (Gannon et al., 2017; Potharst et al., 2017) (see Table 1).

Table 1

Risk of Bias Assessment of Included Qualitative Studies, Quantitative Randomized Controlled Trials and Quantitative Nonrandomized Controlled Trials

Study (year) [reference]	**Methodological quality criteria**				
	Qualitative studies				
	Is the qualitative approach appropriate to answer the research question?[1]	Are the qualitative data collection methods adequate to address the research question?[2]	Are the findings adequately derived from the data?[3]	Is the interpretation of results sufficiently substantiated by data?[4]	Is there coherence between qualitative data sources, collection, analysis and interpretation?[5]
Alhusen et al., 2017	Y	Y	Y	Y	Y
	Quantitative randomized controlled trials				
	Is randomization appropriately performed?[6]	Are the groups comparable at baseline?[7]	Are there complete outcome data?[8]	Are outcome assessors blinded to the intervention provided?[9]	Did the participants adhere to the assigned intervention?[10]
Perez-Blasco et al., 2013	Y	Y	CT	CT	N
Petteys & Adoumie, 2018	N	Y	N	N	N
Poehlmann-Tynan et al., 2019	N	CT	Y	CT	N
	Quantitative nonrandomized controlled trials				
	Are the participants representative of the target population?[11]	Are measurements appropriate regarding both the outcome and intervention (or exposure)?[12]	Are there complete outcome data?[13]	Are the confounders accounted for in the design and analysis?[14]	During the study period, is the intervention administered (or exposure occurred) as intended?[15]
Meschino et al., 2015	Y	Y	Y	CT	Y
Gannon et al., 2017	Y	Y	Y	Y	Y
Potharst et al., 2017	Y	Y	Y	Y	Y
Zeegers et al., 2019	Y	Y	N	Y	Y

Note. Y = Yes; N = No; CT = Can't tell.

[1] The qualitative approach used in the study was appropriate for the research question and problem; [2] The method of data collection (e.g., in depth interviews and/or group interviews, and/or observations) and the form of data (e.g., tape recording; video material) were adequate; [3] The data analysis used was adequate; [4] The interpretation of results was supported by the data collected; [5] There was a clear link between data sources, collection, analysis and interpretation; [6] Researchers described how the randomization schedule

was generated (a simple statement such as 'we randomly allocated' or 'using a randomized design' is insufficient; assignment that is predictable such as using odd and even record numbers or dates is not appropriate). At minimum, a simple allocation (or unrestricted allocation) should be performed by following a predetermined plan/sequence. Allocation concealment that protects assignment sequence until allocation was appropriately performed. Researchers and participants were unaware of the assignment sequence up to the point of allocation; [7] There was not imbalance between groups; [8] Almost all the participants contributed to almost all measures; [9] Outcome assessors (i.e., participants or intervention providers) were unaware of who is receiving which interventions; [10] Considerable proportion of participants who continued with their assigned interventions throughout follow-up; [11] There was a clear description of the target population and of the sample (inclusion and exclusion criteria); there was presented reasons why certain eligible individuals chose not to participate, and any attempts to achieve a sample of participants that represents the target population; [12] The variables are clearly defined and accurately measured; the measurements are justified and appropriate for answering the research question; the measurements reflect what they are supposed to measure; validated and reliability tested measures of the intervention/exposure and outcome of interest are used; [13] Almost all the participants contributed to almost all measures; [14] The confounders were considered in the design and analysis; [15] The participants were treated in a way that is consistent with the panned intervention.

The only mixed-method study fulfilled all the criteria of the qualitative component. Regarding the quantitative component, only two of five criteria were met (see Table 2). Concerning the mixed methods component, we considered whether the study provided adequate interpretations derived from qualitative and quantitative findings, which added value of conducting a mixed method rather than having two separate studies.

Table 2

Risk of Bias Assessment of Included Mixed Methods Studies

	Mixed methods (MX) component				**Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?**									
					Qualitative (QL) component					**Quantitative (QT) component**				
Study (year) [Reference]	**Is there an adequate rationale for using a mixed method design?[1]**	**Are the different components of the study effectively integrated?[2]**	**Are the outputs of the integration of qualitative and quantitative components adequately interpreted?[3]**	**Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?[4]**	Is the qualitative approach appropriate to answer the research question?[5]	Are the qualitative data collection methods adequate to address the research question?[6]	Are the findings adequately derived from the data?[7]	Is the interpretation of results sufficiently substantiated by data?[8]	Is there coherence between qualitative data sources, collection, analysis and interpretation?[9]	Are the participants representative of the target population?[10]	Are measurements appropriate?[11]	Are there complete outcome data?[12]	Are the confounders accounted for in the design and analysis?[13]	Is the intervention administered as intended?[14]
Gannon et al., 2019	N	N	Y	N	Y	Y	Y	Y	Y	N	Y	N	CT	Y

Note. Y = Yes; N = No; CT = Can't tell.

[1] The reasons for conducting a mixed methods study were clearly explained; [2] Qualitative and quantitative components were explicit interrelated; [3] The interpretations derived from integrating qualitative and quantitative findings shows the added value of conducting a mixed methods study rather than having two separate studies; [4] Possible divergences and inconsistencies found were explained; [5] The qualitative approach used in the study was appropriate for the research question and problem; [6] The method of data collection (e.g., in depth interviews and/or group interviews, and/or observations) and the form of data (e.g., tape recording; video material) were adequate; [7] The data analysis used was adequate; [8] The interpretation of results was supported by the data collected; [9] There was a clear link between data sources, collection, analysis and interpretation; [10] There was a clear description of the target population and of the sample (inclusion and exclusion criteria); there was presented reasons why certain eligible individuals chose not to participate, and any attempts to achieve a sample of participants that represents the target population; [11] The variables are clearly defined and accurately measured; the measurements are justified and appropriate for answering the research question; the measurements reflect what they are supposed to measure; validated and reliability tested measures of the intervention/exposure and outcome of interest are used; [12] Almost all the participants contributed to almost all measures; [13] The confounders were considered in the design and analysis; [14] The participants were treated in a way that is consistent with the panned intervention

The inter-rater agreement was calculated for all study designs by Cohen's Kappa coefficient. Regarding the qualitative study, the interrater agreement was perfect ($k = 1$; $p < .001$); for quantitative RCT studies and quantitative nonrandomized studies, the interrater agreement was substantial ($k = .700$, $p < .001$; $k = .730$, $p < .001$, respectively); and in the mixed method study, the interrater agreement was almost perfect ($k = .872$, $p < .001$). Consensus was reached for all studies.

Characteristics of the Studies

As presented in Table 3, three studies were conducted in a community context (Alhusen et al., 2017; Perez-Blasco et al., 2013; Poehlmann-Tynan et al., 2019); four studies were conducted in a clinical context (Meschino et al., 2015; Petteys & Adoumie, 2018; Potharst et al., 2017; Zeegers et al., 2019) and two studies were conducted in both a community and clinical context (Gannon et al., 2017; Gannon et al., 2019). Of the included studies, one study was a qualitative study (focus group methodology); three studies were quantitative RCTs; four quantitative studies were nonrandomized and one is a mixed method study. Of the included RCTs, the control group types were no treatment, and women received two mindfulness meditation sessions at the end of the study (Perez-Blasco et al., 2013), treatment as usual, that is a standard NICU care (Petteys & Adoumie, 2018) and waitlist control (Poehlmann-Tynan et al., 2019). Regarding specific statistical analysis conducted on RCT's studies, in the study developed by Petteys and Adoumie (2018), the authors conducted independent and paired *t* tests, Pearson's chi-square tests, and Mann–Whitney U tests to examine differences between study group demographics, and to examine differences between groups in dependent study variables and within-group changes. In the study of Perez-Blasco et al. (2013), the authors conducted Pearson's chi-square tests and *t* test to compare the intervention and control groups at baseline; independent *t* tests were employed to determine whether or not the two groups differed at baseline in terms of the dependent variables; one-way analyses of covariance (ANCOVAs) were carried out to test between-groups differences pre- and post-test. Finally, the in the study of Poehlmann-Tynan et al. (2019), a multiple imputation procedure for missing data was conducted, ANCOVAs were carried out to test between-groups differences pre- and post-test.

The studies were conducted between 2013 and 2019 in a range of countries, with the United States of America being the most common ($n = 5$) (Alhusen et al., 2017; Gannon et al., 2017; Gannon et al., 2019; Petteys & Adoumie, 2018; Poehlmann-Tynan et al., 2019). Regarding the study population, the studies included samples of homeless mothers (Alhusen et al., 2017), residential and outpatient mothers from a drug treatment program (Gannon et al., 2017; Gannon et al., 2019), Neonatal Intensive Care Unit (NICU) parents (Petteys & Adoumie, 2018), and clinical

populations, namely mother-infant dyads who were referred to a mental health clinic because of the elevated stress or mental health problems of the mother (Meschino et al., 2015), (regulation) problems of the baby, or mother-infant interaction problems (Emerson et al., 2019; Potharst, et al., 2017). Most studies were conducted with samples of mothers-infant dyads, with only two studies including fathers (Petteys & Adoumie, 2018; Poehlmann-Tynan et al., 2019). Almost all studies involved participants who were experiencing or identified as at risk of psychopathology (opioid use disorder; Gannon et al., 2017; mood and anxiety disorders; Meschino et al., 2015; stress or mental health disorder; Potharst et al., 2017; depression, anxiety, post-traumatic stress disorder; Zeegers et al., 2019). The sample size included in the studies varied from 13 mother-infant dyads (Meschino et al., 2015) to 160 mother-infant dyads (Gannon et al., 2017). The children's age varied from zero months to five years old and four months.

Table 3

Characteristics of the Included Studies

Authors	Year	Country (ies)	Study population	Psycho-pathology[1]	Participants receiving antidepressant or psychological treatment at baseline excluded?[2]	Sample size	Dropout rates	Attendance	Children's age	Setting	Study design	Control type
Alhusen et al.,	2017	USA	Homeless mothers	Non-specified	Non-specified	17 mother-child dyads	Non-specified	*M* = 5.6	< 3 years	Community context	Qualitative; Focus group	Non-applicable
Gannon et al.	2017	USA	Residential and outpatient women from a drug treatment program	Yes	Non-specified	160 mother-child dyads	2.94%	*M* = 7.83; *SD*= 10.21	3 months – 4 years (*M*age = 14.89 months; *SD* = 14.02)	Community and clinic context	Quantitative; Before-and-after study (Pre-test post-test design with repeated measures)	Non-exist
Gannon et al.	2019	USA	Residential and outpatient women from a drug treatment program	Yes	No	120 pregnant or mother-child dyads	Non-specified	*M* = 8	0 – 36 months postpartum	Community and clinic context	Mixed methods (single arm pre-test post-test design using repeated measure and a comprehensive process and impact evaluation data)	Non-exist
Meschino et al.	2015	Canada	Mother-infant dyads from the clinical population seeking care for postpartum depression and/or anxiety	Yes	No	13 mother-infant dyads	15.38%	68% (*SD* = 19%)	6-12 months (*M*age = 8.7 months; *SD* = 1.2)	Clinic context	Quantitative; Before-and-after study (Open-label pilot study)	Non-exist
Perez-Blasco et al.	2013	Spain	Breast-feeding mothers	Non-specified	Non-specified	26 breast-feeding mothers (13 in the experimental group and 13	5 women left the study (control group) – did not complete post-test measures	Non-specified	*M*age = 10.75 months (*SD* = 12.46)	Community context	Quantitative; RCT (Between groups design)	No treatment (women received 2 mindfulness

						in the control group)						meditation sessions at the end of study)
Petteys & Adoumie,	2018	USA	The Neonatal Intensive Care Unit (NICU) parents	Non-specified	Non-specified	55 parent-infant dyads (28 in the experimental group and 27 in the control group)	49.09% (14 of experimental group, and 13 of control group)	Non-specified	0 months - moment of NICU discharge	Clinic context	Quantitative; RCT (nonblinded, prospective, parallel)	TAU (standard NICU care)
Poehlmann-Tynan et al.	2019	USA	Parent-child dyads	Non-specified	Non-specified	38 parents-child dyads in two cohorts (14 and 11 participants in the experimental groups, of the two cohorts, respectively and 14 in the control group, used in both cohorts)	One family withdrew from the study and did not have pre-intervention assessments completed, and 2 additional families were lost to attrition, although they completed all pre-intervention assessments	Non-specified	9 months – 5 years and 4 months (*M*age = 3.2 years)	Community context	Quantitative; RCT	Waitlist
Potharst et al.	2017	The Netherlands	Mother-infant dyads, who were referred to a mental health clinic because of elevated stress or mental health problems of the mother, regulation problems of the baby, or mother-infant interaction problems	Yes	No	44 mothers (10 groups of 3-6 mother-infant dyads)	7 %	90% for the eight weekly sessions; 74% for the follow-up session, and 88% for the combination of the eight weekly sessions and the follow-up	0-18 months (*M*age = 10.3 months; *SD* = 4.6)	Clinic context	Quantitative; Time series	Non-exist

Zeegers et al.	2019	The Netherlands	Mothers of young children who experience parenting stress, mother-child interaction problems, and/or whose children experience regulation problems	Yes	No	50 mothers (15 group trainings, 3 to 6 mother-child dyads per group): 36 mothers with their infants and 14 mothers with their toddlers	Observational assessments (sensitivity and mind-mindedness): 68% of the mothers were observed during the waitlist assessment, 92% during post-test, and 92% during follow-up; for dyadic synchrony, 50% of the mother–child dyads were observed during the waitlist assessment, 68% during pre-test, and 68% during post-test	Non-specified	0-48 months (Baby n = 36; *M*age = 9.57 months; *SD* = 5.38) (Toddler n = 14; *M*age = 2.50 years; *SD* = 0.57)	Community context	Quantitative; Nonrandomized trial (waitlist, pre-test and post-test)	Non-exist

Note: [1]Psychopathology (yes *vs.* no *vs.* non-specified); [2]Participants receiving antidepressant or psychological treatment at baseline excluded? (yes *vs.* no *vs.* non-specified).

Characteristics of the Included Mindfulness- and Compassion-Based Interventions

The narrative analysis allowed us to synthesize several interventions' features of the included studies.

Interventions' Approach and Components

All studies reported to use mindfulness-based interventions, or mindfulness and compassionate components applied to the parenting context (see Table 4). Most of the interventions were entirely composed by mindfulness or compassion-based components. Specifically, the study of Alhusen et al. (2017) combined a mindfulness-based intervention with a mindful awareness play intervention; Perez-Blasco et al. (2013) used a mindfulness-based intervention, that was based on MBSR, Mindfulness-based Cognitive Therapy (MBCT) and a mindful self-compassion approach; Poehlmann-Tynan et al. (2019) used a compassion-based approach (Cognitively Based Compassion Training [CBCT]); and Potharst et al., (2017) and Zeegers et al. (2019) used a Mindful Parenting approach, which was based on Mindful Parenting Training, MBSR and MBCT.

In turn, several interventions have used other components, specifically the intervention developed by Gannon et al. (2017) and Gannon et al. (2019) combined a mindfulness-based intervention (based on MBSR) with components of an attachment-based intervention, both adapted to trauma; the intervention developed by Meschino et al. (2015) used mindfulness training components and used components from different approaches such as Insight-oriented, Relational, Cognitive-Behavioral Therapy and Interpersonal Psychotherapy; Petteys and Adoumie (2018) combined components of a mindfulness-based intervention with components of neurodevelopmental care training.

Interventions' Administration Method, Length and Facilitators

A group format administration was the more frequent format of the interventions. The length of the interventions ranged from eight to 12 sessions with a weekly frequency, with the exception of the intervention described by Petteys and Adoumie (2018), which had a duration equivalent to the baby's hospitalization period in NICU. The most prevalent length of each session was approximately two hours, with the exceptions of the study developed by Alhusen et al. (2017), with a session length of approximately one hour, and the study of Petteys and Adoumie (2018), which varied between 30 minutes and one hour. Almost all studies reported that the child also attended the sessions, either some sessions (e.g., Gannon et al., 2017; Potharst et al., 2017), or all the intervention' sessions (e.g., Perez-Blasco et al., 2013).

Although some studies did not specify the intervention facilitators (Alhusen et al., 2017; Perez-Blasco et al., 2013; Poehlmann-Tynan et al., 2019), most of them were mental-health specialists or a multidisciplinary team (both mental and non-mental health) with a specific qualification in the intervention delivered (Gannon et al., 2017; Gannon et al., 2019; Meschino et al., 2015; Petteys & Adoumie, 2018; Potharst et al., 2017; Zeegers et al., 2019).

Table 4

Narrative Synthesis of the Mindfulness and/or Compassion-Based Interventions used in the Included Studies

Authors	Intervention approach[1]	Intervention name	Curriculum by session presented in the article?[2]	Administration method	Number of sessions/ Length of the intervention	Length of each session (hours)	Child included in session? [3]	Location where the intervention is delivered	Intervention facilitator[4]
Alhusen et al., 2017	Mindfulness-based and Play intervention	SHINE Mindfulness Program and Mindful Awareness Play (MAP) parent-child activity	No	Group (SHINE) and individual (MAP)	10 sessions; weekly	± 1h	Yes	PACT TN (Intervention with Parents and Children Together - Therapeutic Nursery (TN) serving homeless children under the age of 3 years and their caregivers	Non-specified (clinician)
Gannon et al., 2017	Attachment-based and Mindfulness-based (based on Mindfulness-Based Stress Reduction [MBSR])	Trauma-informed Mindfulness-Based Parenting (MBP) intervention	Yes	Group	12 sessions; weekly	2h	3 of the 12 sessions	Treatment center	Both (clinician from the drug treatment program and a MBP teacher)
Gannon et al., 2019	Attachment-based and Mindfulness-based (based on Mindfulness-Based Stress Reduction [MBSR])	Trauma-informed Mindfulness-Based Parenting (MBP) intervention	No	Group	12 sessions; weekly	2h	3 of the 12 sessions	Treatment center	Both (multi-disciplinary research team including a pediatric physician, PhD researchers, social workers, mindfulness-based stress reduction teachers, epidemiologist addiction specialists, clinical supervisors from the treatment program, caseworkers, peer-specialist, clinical staff)
Meschino et al., 2015	Insight-oriented, Relational, Cognitive-Behavioral Therapy (CBT), Interpersonal Psychotherapy (IPT), and Mindfulness Training	Mother-infant Dyadic Group Therapy Intervention	No	Group	12 sessions; weekly	2h	Yes	Two university-affiliated teaching centers: a maternal mental health focus (Department of Psychiatry, Women's College Hospital), and the Infant and Preschool team of a children's mental health center (Hincks-Dell crest Centre)	Mental-health specialists (one specializing in maternal mental health and one with expertise in child mental health and dyadic infant-led play therapy)

Perez-Blasco et al., 2013	Mindfulness-based (based on MBSR, Mindfulness-based Cognitive Therapy (MBCT) and Mindful Self-compassion)	Mindfulness-based Intervention in breast-feeding mothers	Yes	Group	8 sessions; weekly	2h	Yes	Well-lit room at the Health Centre	Non-specified (one of article´s author)
Petteys & Adoumie, 2018	Parent Education and Mindfulness-based (using principles of attunement and neurodevelopmental care)	Mindfulness-based Neurodevelopmental Care	Yes	Individual and verbal contact (phone or in-person) at least every other week for the duration of infant's hospitalization	Length of NICU hospitalization	30-60 min	Non-applicable	Non-profit, academic community hospital in California	Both (research team members with certification in family-centered care and mindfulness, attachment, attunement, and neurodevelopment in NICU)
Poehlmann-Tynan et al., 2019	Kindness and Compassion-based	Cognitively Based Compassion Training (CBCT)	Yes	Group	8 - 10 sessions; weekly and a mini retreat (4h)	2h	Non-specified	Non-specified (all sessions in the same room at the same institution)	Non-specified (CBCT-certified teachers)
Potharst et al., 2017	Mindful Parenting (based on Mindful Parenting Training, which is based on MBSR and MBCT)	Mindful with Your Baby Training	No	Group	8 sessions; weekly	2h	6 of the 8 sessions	Primary or secondary mental health care centers	Mental-health specialists (Mindfulness trainer and Infant Mental Health specialist)
Zeegers et al., 2019	Mindful Parenting (based on Mindful Parenting Training, which is based on MBSR and MBCT)	Mindful with Your Baby/Toddler Training	No	Group	8 (babies) or 9 (toddlers) sessions; weekly and an additional follow-up session (2 months later)	2h	Baby: 6 of the 8 sessions Toddler: 5 of the 9 sessions	Community child mental health center or a mindfulness center	Mental-health specialists (Mindful with your Baby/Toddler trainer and Infant Mental Health specialist)

Note: [1]Intervention approach - the main approach(es) of the intervention were classified; [2]Curriculum by session presented in the article? (yes *vs*. no); [3]Child included in session? (yes *vs.* no *vs*. non-specified);

[4]Intervention facilitator (non-mental health specialist vs. mental-health specialist vs. both).

Summary of Findings of the Included Mindfulness- and Compassion-Based Interventions

Overall, all the studies had a therapeutic goal related to the promotion of parental skills, mindfulness, compassion, and the quality of parental caregiving, evaluated through clinician-administered outcome assessment (*n* = 1), self-report (*n* = 4) or both (*n* = 4). The qualitative study specifically intended to explore the perceived benefits of participating in a mindfulness program (Alhusen et al., 2017) (see Table 5).

The study developed by Potharst et al. (2017) had eight-week and one-year follow-up timings. The remaining studies conducted assessments at baseline and postintervention, which varied from zero (e.g., Meschino et al., 2015) to one month after the end of the intervention (e.g., Poehlmann-Tynan et al., 2019). Exceptionally, the study developed by Gannon et al. (2019) did not specify the postintervention timing of the assessments, and the study of Petteys and Adoumie (2018) did not have a postintervention assessment.

Main Results

Regarding the qualitative study developed by Alhusen et al. (2017), most participants attributed benefits to their participation in mindfulness training. For instance, mothers perceived benefits to their health, parenting abilities, describing more joy in their interactions with their young children and in their young children's behavior. They described that they have learned to allow themselves time for self-compassion and to self-regulate by learning to respond and not to react, especially to the child's behavior. Moreover, mothers noted that the program improved parent-child communication and allowed them to view situations from the child's perspective and to gain a better understanding of the child's feelings.

Concerning the RCT studies, in the study of Perez-Blasco et al. (2013), the intervention seemed to be effective in promoting maternal self-efficacy, several dimensions of mindfulness (observing, acting with awareness, non-judging, and non-reactivity), and self-compassion (self-kindness, mindfulness, over-identification, and total self-compassion), and in reducing anxiety, stress, and psychological distress of mothers. Furthermore, many mothers perceived and reported that their personal practice led to positive changes in other family members, such as their husbands. Similarly, in the study developed by Poehlmann-Tynan et al. (2019), mothers who participated on Cognitively Based Compassion Training (CBCT) reported feeling calmer in stressful situations with their children; they also reported thinking and feeling differently about certain issues, including self-compassion and gratitude. In the study of Petteys and Adoumie (2018), even there were no differences in parent outcomes between the intervention and control groups, the intervention - Mindfulness-based Neurodevelopmental Care – seemed to reduce parenting stress from enrolment to discharge and infants had a shorter length of stay in NICU.

In the study developed by Gannon, 2017, there were no differences between treatment (outpatient or residential) conditions in the main outcomes, suggesting that the program was feasibly adapted for women in both outpatient and inpatient treatment schedules. Overall, mothers who participated in Trauma-Informed Mindfulness-Based Parenting intervention showed clinically significant improvements in quality of parenting behavior and mindful parenting. Similarly, the study developed on 2019 by the same author (Gannon et al., 2019) suggested identical results.

The study developed by Meschino et al. (2015) suggested that participants of the Mother-Infant Dyadic group therapy intervention perceived benefits, reporting subjective improvement in the mother-infant relationship and a significant reduction in depressive, anxiety and stress symptoms. Moreover, mother's perceptions suggested that the babies' characteristics and behaviors had become more acceptable to them and that they perceived improvements in insight, parenting capacity, affect regulation and positive interactions with baby.

Mindful with Your Baby Training seemed to promote mindfulness, self-compassion, mindful parenting, well-being, psychopathology, parental confidence, responsivity, and hostility, at three times of evaluation (post-test, 8-week follow-up, and 1-year follow-up). Importantly, mindfulness and self-compassion improved further at the 1-year follow-up. Parenting stress and parental affection only improved at the first and second follow-ups, respectively, and maternal attention and rejection did not change. Overall, this intervention was a feasible and an acceptable program for mothers with infants who experience stress in motherhood (Potharst et al., 2017). The study developed by Zeegers et al. (2019), using the same intervention, suggested that the intervention seemed to reduce parenting stress, and promotes a more acceptance and less nonattunement attitude towards the child, suggesting that the intervention affects maternal behavior, particularly (over)reactive parenting behaviors (see Table 5).

Table 5

Narrative Synthesis of Findings of the Mindfulness and/or Compassion-Based Interventions used in the Included Studies

Authors	Therapeutic goals	Outcomes	Outcome measures	Method of outcome assessment[1]	Post-intervention timing of the assessments[2]	Main results
Alhusen et al., 2017	- To describe the perceived benefits of participating in a mindfulness program - Therapeutic goals of the SHINE: Support, Honour, Inspire, Nurture, Evolve - Therapeutic goals of the MAP: To promote regulation, strengthen family attachment relationship, reduce stress and anxiety, address trauma-induces developmental delays	- Perceived benefits of participating in a mindfulness program	- Video-recorded interviews (30 minutes): open-ended questions about in-depth feedback on all program components, with a focus on the perceived benefits of participating in a mindfulness program: "Tell me how participating in the mindfulness sessions has helped you personally? Which mindfulness skills do you find most helpful in your own daily routine? How do you think participating in mindfulness has helped you as a parent? What changes have you noticed in interacting with your child(ren)? What differences, if any, do you notice in how your child responds to you?"	Clinician-administered	1 month (post-test)	- Four themes were derived from the data regarding the perceived benefits of the mindfulness program: (1) "Me" time: "Take that moment and just be myself"; (2) Maternal self-regulation: "It's not worth the drama"; (3) Dyadic connectedness: "I'm opening my arms rather than pushing away"; (4) Child well-being: "It's my temperament that's calming him down." - Participants noting benefits on their health, parenting abilities, and their young children's behavior - Through the SHINE program, participants learned to allow themselves time for self-compassion - Each participant described stressors that they were facing, and attributed mindfulness to decreased stress and improved self-regulation - Participants described more joy in their interactions with their young children, which they attributed to participating in mindfulness training - Participants attributed positive changes in their children's behavior to their own participation in mindfulness training
Gannon et al., 2017	- To objectively assess the impact of a trauma-informed group-based MBP intervention on the quality of parenting behavior of mothers in treatment for opioid use disorders - To investigate whether program attendance further predicted MBP program effects on parenting behaviors	- Quality of parenting behavior - History of exposure to childhood trauma - Mindful parenting	- Sociodemographic survey - Keys to Interactive Parenting Scale (KIPS) - Adverse Childhood Experiences (ACE) tool - Interpersonal Mindfulness in Parenting (IM-P) scale	Self-report	2 weeks (post-test)	- The MBP intervention resulted in clinically significant improvements in quality of parenting behavior and mindful parenting - Higher baseline adverse childhood experiences and higher program attendance significantly predicted improved quality of parenting behaviors at a greater rate over time; those with high baseline adverse childhood experiences and low attendance

	- To explore the impact of maternal history of childhood trauma and self-reported mindfulness on quality on parenting behaviors					did not improve quality of parenting behavior over time - Mothers with higher self-reported mindful parenting showed improvements in parenting at a greater rate than those with lower mindful parenting scores - Treatment (outpatient or residential) did not influence the main outcomes of the study, suggesting the program was feasibly adapted into women in both outpatient and inpatient treatment's schedules
Gannon et al., 2019	- To evaluate the feasibility and effectiveness of the Trauma-informed MBP intervention using the RE-AIM framework (Reach; Effectiveness; Adoption; Implementation; Maintenance)	- Quality of parenting behavior - Strengths and weakness of an intervention	- Keys to Interactive Parenting Scale (KIPS) - Interviews - The five facets of RE-AIM to evaluate interventions	Both	Non-specified	- The MBP intervention is a feasible and effective intervention for improving parenting and dyadic attachment between women with opioid disorder and their children - Clinically significant improvements in KIPS total and all subscale scores: ▪ Building relationships - Participants appeared less frustrated and reactive at follow-up, and more able to read the cues of their toddlers. Mothers were better able to support the child's emotions and become involved in the child's activities. Improvement observed in physical play between the dyad, notably in the mother matching her child's preference for physical rather than sedentary play, more movement across the room, physical holding and soothing of the child and less interacting with their child in a mechanical way. Mothers were able to sustain interest in an activity with their child for a longer period. At baseline, emotional affect was largely absent compared to follow-up, where there was apparent sharing in emotion between the dyad as well as more verbalization of emotions and lingual expressions of tenderness towards the child ▪ Promoting learning - there was not a difference noted between baseline and follow-up in terms of language development. Mothers exhibited more

						ability to adjust in their play by reading their child's cues, as well as in how they set limits with their child by remaining calm, explaining why they were saying "no", re-directing play, and following through on consequences ▪ Supporting confidence - the ability of mothers to build confidence in their children improved from "low quality" at baseline to "moderate quality" at program completion
Meschino et al., 2015	- To enhance maternal affect-regulation skills, parenting skills (reflective capacity and sensitivity to infant cues) and exploring how experiences lived in family of origin might impact on current attitudes and parenting behaviors - To evaluate the feasibility, acceptability, and compliance with a clinical trial protocol for the newly developed intervention, and to generate preliminary data on efficacy of the intervention to inform the sample size of a future randomized controlled trial	- Mothers' demographic and clinical information - Feasibility - Acceptability - Efficacy (maternal depressive symptoms; anxiety symptoms; stress related to child characteristics, maternal characteristics, and life situations) - Mothers self-report of experience of the intervention in terms of outcomes (maternal, mother-infant, and infant outcomes), content, and processes	- Acceptability: Survey - Efficacy: The Edinburgh Postnatal Depression Scale (EPDS); Beck Anxiety Inventory (BAI); Parenting Stress Index (PSI)	Both	0 (post-test)	- Participants perceived benefits, reporting subjective improvement in the mother-infant relationship - The results suggest that the babies' characteristics and behaviors had become more acceptable to the mothers - The intervention led to enhancements of insight, parenting capacity, affect regulation and positive interaction with baby, and a significant reduction in maternal depressive, anxious and stress symptoms
Perez-Blasco et al., 2013	- To develop and evaluate a mindfulness-based intervention that promotes mindful parenting, and aimed at improving maternal self-efficacy, mindfulness, self-compassion, satisfaction with life, subjective happiness and reducing psychopathological distress in breast-feeding mothers during the early parenting period (from childbirth to 2 years of age)	- Demographic information - Maternal self-efficacy - Mindfulness - Self-compassion - Depression - Anxiety - Stress - Satisfaction with life - Subjective happiness	- Parental Evaluation Scale - Five Facet Mindfulness Questionnaire (FFMQ) - Self-Compassion Scale (SCS) - Subscales of Depression, Anxiety, Stress Scale (DASS-21) - Satisfaction with Life Scale (SWLS) - Subjective Happiness Scale	Self-report	3 weeks (post-test)	- Compared to the control group, mothers in the treatment group scored significantly higher on maternal self-efficacy, some dimensions of mindfulness (observing, acting with awareness, non-judging, and non-reactivity), and self-compassion (self-kindness, mindfulness, over-identification, and total self-compassion) - Mothers who received the treatment exhibited significantly less anxiety, stress, and psychological distress - Many mothers reported important changes in their children throughout the sessions

						- Many mothers reported that their personal practice led to positive changes in other family members, like their husbands and mothers
Petteys & Adoumie	- To evaluate the impact of parental education and participation in a mindfulness-based neurodevelopmental care on parent stress, bonding and satisfaction of parents of preterm infants - To explore the overall impact of the intervention on NICU length of stay	- Infant clinical information - General demographic form - Parental perceptions of stress - Bonding - Parent satisfaction - Parent-infant interaction	- Infant clinical data collection tool created by the researcher - Demographic data form created by the researcher. - Parental Stressor Scale (PSS: NICU) - Mother-to-Infant Bonding Scale (MIBS) - Parent Satisfaction Score - Parent-Infant Interaction Log	Self-report	Non-existent	- Experimental group parents showed a significant reduction in stress scores from enrolment to discharge and infants had significantly shorter length of stay in NICU than control group - No statistically significant differences in other parent outcomes were seen between groups
Poehlmann-Tynan et al., 2019	- To investigate what are the direct effects of CBCT on parent's perceived stress, mindfulness, self-compassion and parent's and children's hair cortisol concentration (HCC)	- Family demographic variables - Perceived symptoms of stress - Perceived parenting stress - Parental self-compassion - Mindfulness - Cumulative stress	- Demographic questionnaire - Calgary Symptoms of Stress Inventory (C-SOSI) - Parenting Daily Hassles Scale (PDH) - Parenting Stress Index – Short Form (PSI-SF) - Self-Compassion Scale (SCS) - Five Facet Mindfulness Questionnaire (FFMQ) - Hair samples	Both	1 month (post-test)	- In the group discussions, many parents reported feeling calmer in stressful situations with their children; they also reported thinking and feeling differently about self-compassion and gratitude, following participation in CBCT modules on these topics - Children of parents in the CBCT group experienced significant decreases in cortisol at the postintervention assessment, as compared with the control group (positive effects for children's stress) - Parent cortisol and self-report measures did not significantly change other than a small effect on clinical levels of parenting stress
Potharst et al., 2017	- To evaluate the effects of a mindful parenting group training for mother-infant dyads, who were referred to a mental health clinic because of elevated stress or mental health problems of the mother, (regulation) problems of the baby, or mother-infant interaction problems	- Mindfulness - Mindful parenting - Self-compassion - Well-being - Psychopathology - Parenting stress and lack of confidence - Maternal warmth and negativity towards the baby - Infant temperament	- Five facets of mindfulness questionnaire (FFMQ) - Dutch version of the Interpersonal Mindfulness in Parenting Scale (IM-P) - Self-Compassion Scale (SCS) - Dutch version of the Well-being Index (WHO-5) - Dutch version of the Adult Self-Report (ASR) - Dutch Parenting Stress Index (PSI) - Scale's warmth and negativity of the Comprehensive Parenting	Self-report	0 (post-test); 8-week follow-up; 1-year follow-up	- A significant improvement was observed in maternal mindfulness, mindful parenting, self-compassion, well-being, psychopathology, confidence, responsivity, and hostility - At 1-year follow-up only mindfulness and self-compassion improved further - Parenting stress and parental affection only improved at the first and second follow-ups, respectively and maternal attention and rejection did not change - The infants improved in their positive affectivity but not in other aspects of their temperament

			Behavior Questionnaire 1-year version (CPBQ-1) - Short form of the Dutch version of the Infant Behavior Questionnaire- Revised (IBQ-R)			- Mindful with Your Baby is a feasible and acceptable program for mothers with infants, who experience stress in motherhood
Zeegers et al., 2019	- To evaluate the effects of the Mindful with Your Baby/Toddler Training for mothers of young children, who experience parenting stress, mother–child interaction problems, and/or whose children experience regulation problems - To evaluate whether the training reduces maternal self-reported parenting stress, and changes objectively measured maternal behavior during parent–child interactions and mother–child interaction quality, as compared to waitlist - To develop practice in listening to the child with full attention through mindfulness meditation (improving parents' attention and receptive awareness to the experiences of the present moment) - To improve parents' self-control and to reduce their immediate reactions to their own thoughts, or feelings and external child-related events - To practice being attentive to their own and to the child's inner states by means of individual, and mother–child watching meditations, as well as the inquiry afterward - To teach parents to take a non-judgmental and compassionate stance toward their child's and their own traits, attributes, and behaviors, which leads to the lower rejecting and dismissing parenting behaviors, as well as respect for the child's autonomy	- Parenting stress - Sensitivity and acceptance - Mind-mindedness - Dyadic synchrony	- Dutch Parenting Stress Index – Short Form (PSI-SF) - 10-min free play sessions recorded at home – play with the child with (5 min) and without (5 min) age-appropriate toys – 2 scales (Ainsworth, 1969) sensitivity versus insensitivity and acceptance versus rejection - The same 10-min play used to assess maternal sensitivity and acceptance, was used to assess mothers' mind-mindedness; a transcription and codification of each spoken word or sentence of the mother are categorized according to the specific state the parent referred to. Then mind-related comments were classified as appropriate or nonattuned - 4-min face-to-face interactions recorded: classification of gaze, positive facial expressions, and vocalizations	Both	Waitlist (5 weeks before starting the training); pre-test (home observations repeated the week before the start of the training); and post-test (1 week after the training)	- Mothers reported less parenting stress after the training - Mothers were more accepting after the training, but maternal sensitivity did not improve significantly - Mothers made less nonattuned references to the child's mental states - The children showed higher levels of responsiveness after the training - The outcomes suggest that the Mindful with Your Baby/Toddler Training affects not only maternal stress, but also maternal behavior, particularly (over)reactive parenting behaviors, which resulted in more acceptance, better attunement to child's mental world, and more "space" for children to respond to their mothers during interactions

Note: [1]Method of outcome assessment (self-report vs. clinician-administered vs. both); [2]Postintervention timing of the assessments (when the assessments were conducted immediately postintervention, they were coded as 0 and for the studies in which the assessments occurred at a specific time point, we clarified this information; [3]Therapeutic strategies/techniques (e.g., psychoeducation) – type of activities.

Therapeutic Strategies

The interventions of the included studies used different types of activities that aimed to achieve the established therapeutic goals. They are further specified in Table 6. Generally, the studies used tasks derived from standard programs but with mindful parenting and compassionate parenting adaptations. Moreover, authors adapted the programs to the specific population (for instance, for a population with high rates of trauma was given the option to open their eyes during meditations; Gannon et al., 2017). All studies used mindfulness-based formal or/and informal meditations with parents, and several studies made some adaptations to the presence of the child in the session. For instance, the studies of Potharst et al., (2017) and Zeegers et al. (2019) incorporated meditations in which mothers focused on their child, namely, watching meditations. Mothers were asked to watch every step and behavior of the child with curiosity and to empathize with the intentions and the discoveries of the child.

Furthermore, several activities were used, such as interactive play (e.g., use of a decorated box containing a simple mystery item each week) (Alhusen et al., 2017; Gannon et al., 2017), mindful activity (e.g., creation of a glitter jar to settle the mind; mindful eating with a raisin) (Gannon et al., 2017; Gannon et al., 2019), neurodevelopmental care training centered on observation and recognition of infant cues and signs of organized and disorganized infant behavior (Petteys & Adoumie, 2018), yoga (Gannon et al., 2019), psychotherapy and education about symptom reduction techniques, insight about the influences and contributions to the self and parenting of family of origin (Meschino et al., 2015), group discussion (e.g., Meschino et al., 2015) and inquiry (in which participants shared their experiences after meditations) (Potharst et al., 2017; Zeegers et al., 2019). Some interventions also included homework activities to practice the week's topic (e.g., reading handouts about mindfulness and mindful parenting; formal meditation to be practiced when the child is asleep or when someone else was taking care of the child; informal meditation; mindful parenting exercises) (Poehlmann-Tynan et al., 2019; Potharst et al., 2017; Zeegers et al., 2019).

Table 6

Summary of Therapeutic Strategies/Techniques used in Mindfulness and/or Compassion-Based Interventions

Alhusen et al., 2017	Gannon et al., 2017	Gannon et al., 2019
SHINE: -Three formal, guided meditations (in each session) -An informal "Key to Mindfulness" practice through interactive exercises, demonstrations and peer teachings (in each session) – each "Key" depicts a simple, clear practice that focuses on the parent creating and intentional pause for self-reflection and wise choice; the parent is given a designed "Key" tag, which corresponds to the mindful teaching for the day and can serve as a reminder in her pocket to use mindfulness to deal with daily stress; review of group agreements; passing of a "talking stick" for individuals' comments; sharing mindful "victories" that parents experienced in the past week MAP: -Each dyad is paired with a clinician and is seated on a brightly colored blanket on the floor; use of a decorated red box containing a simple mystery item (each week) -Interactive play, to promote the Curious Observer (mother) and the Curious Explorer (child)	-Adaptation of mindfulness techniques used in MBSR; techniques were modified to address the needs of a population that has experienced high rates of trauma, including adapting language and exercises during the body scan that refer to areas of the body that are common targets of assault; option for opening the eyes during meditations; and partnering clinical staff with the MBP teacher in class to address triggered emotions that may arise about a previous trauma event -Each session began with a sitting meditation, followed by a ''check-in'' to see how the women were using their mindfulness tools, a dyadic component of the tool introduced that week, mindful movement, sitting meditation, and mindful activity (e.g., creation of a glitter jar to settle the mind, mindful eating of a raisin) -Sessions with the baby: the dyad was led in song and play by the MBP teacher and offered real-time feedback and guidance -Mothers were encouraged to come 15 minutes before the beginning of group to settle into the mindfulness space, sitting, and transitioning from the outside world to the MBP group	-Adaptations were required to tailor the intervention to the needs of this population, including those who may have trauma histories, shorter attention spans, and low literacy levels (e.g., focusing the body scan away from areas of the body that are common targets of assault, shortening meditations from 25 to 45 minutes to only 5–15 minutes, simplifying language, allowing for eyes open meditations, option of standing or sitting meditations, movement, eliminating jargon, and repeating key terminology) -Project activities: diffusion of mindfulness resources throughout the clinic through email and in meetings, meditations at beginning of counselling sessions and staff meetings, and mindfulness, yoga, and MBP onsite -The mother-child dyad sessions were guided in mindful and intentional play and provided with real-time feedback on their parenting behaviors
Perez-Blasco et al., 2013	**Meschino et al., 2015**	**Petteys & Adoumie, 2018**
-Review of the tasks performed during the previous week -Brief guided meditations: 2 or 3 10 minutes meditations per session, using guidelines of MBSR, MBCT, MSC (Breathing, the Now, Letting Go, Body Scan, the Mountain, the Lake, Compassion, Goals, Forgiveness) -Introduction to and discussion of central themes in mindfulness practice in relation to personal maternity and parenting experiences -Each week different tasks are given to mothers, such as written material including a summary of concepts to work on, instructions to complete all	-Mindfulness training: mindfulness meditation, to focus attention on thoughts, feelings, bodily sensations, perceptions, experiences emanating from holding or watching their baby -Psychotherapy and education including symptom reduction techniques, family of origin insight, parenting techniques -Dyadic infant-led play: adaptation of Watch, Wait, and Wonder (WWW) for groups, an evidence-based dyadic intervention that has been shown to shift attachment toward greater security and improve mother's sense of competence as a parent. In each WWW session, mothers play with	-Mindfulness techniques education: breathing, personal awareness and nonjudgment, and awareness and nonjudgment of their infant -Principles of attunement and varies types of touch and nontouch interactions were reviewed with parents -Neurodevelopmental care training centered on observation and recognition of infant cues; signs of organized and disorganized physiologic state, motor behaviors, and state behaviors, as well as development of infant self-regulation

tasks, and a template to mothers write down their experiences -Mothers should practice a formal meditation (with recorded instructions) and an informal practice (2 mindfulness activities per day, one of a personal nature, e.g., shower, and one with the baby, e.g., play)	their own baby for 10–15 min, with instructions to follow the child's lead; during the interaction, mothers are encouraged to think about what the baby may be thinking, feeling, and needing, as well as their own thinking, feeling, and needs; after the play, the therapist follows the mother's lead as she reflects on her observations; time was made for each mother to discuss her own observations, and for others to participate, validate, or expand using their own experiences with their infants -Group discussion: education topics, coping strategies, insights, and observations; reflection about how their past experiences had influenced their mental state, interpretation of their baby's behavior, and parenting responses; discussion of the application of their new knowledge or strategies to impact relationships with their infants and significant others	

Poehlmann-Tynan et al., 2019	**Potharst et al., 2017**	**Zeegers et al., 2019**
-Each session contains pedagogical material presented by trained instructors, a guided meditation, and group discussion -Homework to practice the week's topic (e.g., meditations using a guided meditation record).	-Adaptations of Mindful Parenting Training, which is based on MBSR and MBCT for new mothers (mindfulness training transformed into a mindful parenting training) -Formal meditation: when the babies are present, the instructions of the meditation are adjusted (e.g., mothers should merely be aware of the direction their attention tends to go, keeping in touch with herself while the baby is present and making conscious and flexible decisions about directing their attention, according to the needs of the baby) -Inquiry -Discussion of the home practices -New theme, integrated in an exercise (e.g., visualization exercise) -Explanation of home practice (e.g., reading handouts about mindfulness and mindful parenting for mothers with a baby; formal meditation to be practice as much as possible when the baby is asleep or someone else takes care of the baby; informal meditation; mindful parenting exercises) -In moments of stress, a 3 minutes breathing space is practiced with the group	-Meditations in which mother focus on their child (e.g., watching meditations, in which mothers are asked to watch every step and behavior of the child with curiosity and to emphasize with the intentions and the discoveries of the child) - Psychoeducation about themes related to both mindfulness and child development (i.e., the circle of security is introduced as a frame of reference for looking at attachment related behavior of the children) -Inquiry

Discussion

This systematic review aimed to evaluate the effect of mindfulness- and compassion-based parenting interventions applied to the postpartum period that aimed to promote parenting skills and to enhance the quality of parental caregiving. Moreover, this study aimed to comprehensively review and synthesize the types and characteristics of the existing interventions, and the therapeutic strategies used in each intervention. Given the heterogeneity of the included studies, it is difficult to draw definitive conclusions about the efficacy and effectiveness of the mindfulness- and compassion-based parenting interventions. Nonetheless, this systematic review focused on a narrative synthesis of the main features of the interventions.

First, the number of studies (*n* = 9) and interventions (*n* = 7) included in this review indicates that there is only a few mindfulness- and compassion-based parenting interventions applied to the postpartum period. In fact, the application of these third-generation cognitive-behavioral therapies and concepts to parenting is still in its infancy (Moreira et al., 2019), especially in this period. The publication year of the studies (which ranged between 2013 and 2019) suggest that interest in this research area is recent and is increasing in recent years. Nonetheless, the studies included in this review were conducted in different countries with different cultural contexts, showing a wide application and interest in mindfulness- and compassion-based interventions. Furthermore, the interventions were developed with a variety of populations (e.g., homeless mothers; residential and outpatient mothers from a drug treatment program; NICU parents; and clinical populations, such as mother-infant dyads who were referred to a mental health clinic because of the elevated stress or mental health problems of the mother, (regulation) problems of the baby, or mother-infant interaction problems), indicating that these interventions may be widely applicable in populations with different characteristics. It is possible that once mindfulness is considered a positive and proactive activity rather than a form of treatment, this may lead parents to feel less stigmatized than they would be if they used another type of support (e.g., antidepressants, psychotherapy sessions), allowing the generalization of the application of mindfulness-based interventions. Additionally, the social acceptability of these interventions may eliminate a significant barrier faced by postpartum parents when deciding whether to seek mental health treatment and may promote their engagement in the interventions (Badker & Misri, 2017).

Most studies were conducted with mothers-infant dyads. Only two studies included fathers (Petteys & Adoumie, 2018; Poehlmann-Tynan et al., 2019), although a growing body of literature has indicated that incorporating fathers in parenting interventions has benefits because their engagement in their children's lives is important for infant and childhood development, health

and social well-being (Alio, 2017; Yogman & Garfield, 2016). Therefore, it is critical to better understand which strategies can increase fathers' engagement in and acceptance of these interventions. Almost all studies reported that the child attended the sessions, either some sessions (e.g., Gannon et al., 2017; Potharst et al., 2017) or all the intervention sessions (e.g., Perez-Blasco et al., 2013). According to several studies, the presence of the child in the parenting intervention may be beneficial because parents may learn the actual behaviors of mindful parenting in direct relation to their child, and the child's presence facilitates generalization of what has been learned (Potharst et al., 2017; Townshend & Caltabiano, 2019).

Regarding the characteristics of mindfulness- and compassion-based parenting interventions, almost all studies applied mindfulness-based interventions or mindfulness components complemented with different approaches (compassionate or not), adapted for the parenting context and the postpartum period. The only compassion-based intervention (Poehlmann-Tynan et al., 2019) included mindfulness-based training (Kirby, 2017), because mindfulness is one of the components of compassion (Neff, 2003). Although the different therapeutic components were associated with benefits for the parent-infant outcomes, it is difficult to understand which components clearly contribute to the positive outcomes, if it was mindfulness and compassionate components, or the attachment-based components used in the intervention developed by Gannon et al. (2017) and Gannon et al. (2019), the Insight-oriented, Relational, Cognitive-Behavioral Therapy and Interpersonal Psychotherapy components used in the intervention developed by Meschino et al. (2015), or the neurodevelopmental care training developed in the intervention of Petteys and Adoumie (2018). Future studies should focus on the understanding of which components and mechanisms promote parenting skills and the quality of parental caregiving.

A group format administration with an intervention length of eight to 12 sessions (two hours each) in a weekly frequency were the most common. The relative high attendance rates in those interventions (when specified), may suggest that those characteristics may be considered as some clues for the development of future interventions since they may increase the participation of parents.

The interventions of the included studies used different types of activities that aimed to achieve the established therapeutic goals related to the promotion of parenting skills, mindfulness, compassion, and the quality of parental caregiving. Specifically, the interventions included tasks derived from the standard programs but with adaptations for mindful parenting and compassionate parenting. All the interventions included mindfulness-based formal and informal meditations. In addition, some interventions included interactive play (Alhusen et al., 2017; Gannon et al., 2017), neurodevelopmental care training centered on the observation and

recognition of infant cues and signs of organized and disorganized infant behavior (Petteys & Adoumie, 2018), yoga (Gannon et al., 2019), psychotherapy and education about symptom reduction techniques (Meschino et al., 2015), group discussion (e.g., Meschino et al., 2015), inquiry (Potharst et al., 2017; Zeegers et al., 2019), and homework activities (Poehlmann-Tynan et al., 2019; Potharst et al., 2017; Zeegers et al., 2019). Although these therapeutic strategies are associated with benefits for parent-infant outcomes, according to Townshend et al. (2016), different mindful parenting models are practiced, from purely psychological techniques to those that include breath awareness or yoga, which makes it difficult to understand which aspects of mindfulness are responsible for promoting parenting skills and facilitating positive and secure parent-infant relationships.

In most studies and considering the narrative analyses of this review, the findings suggest that mindfulness- and compassion-based parenting interventions applied to the postpartum period are associated with the promotion of positive parenting skills through mindful parenting and self-compassion (e.g., Perez-Blasco et al., 2013; Poehlmann-Tynan et al., 2019; Zeegers et al., 2019). Concerning the qualitative study, mothers perceived benefits on their parenting abilities because of their participation in a mindfulness training (Alhusen et al., 2017). For instance, they described that they felt more self- compassion and compassion for the child and that they learned how to self-regulate. Additionally, mothers noted that the program improved parent-child communication and allowed them to view the situations from the child's perspective, allowing them to gain a better understand of the child's feelings. Moreover, these interventions were associated with the promotion of the quality of caregiving and the mother-infant relationship (Meschino et al., 2015), for instance through the promotion of the quality of the parenting behavior (Gannon et al., 2017; Gannon et al., 2019), responsivity and less hostility in parenting (Potharst et al., 2017). Therefore, the positive associations between these interventions and parent-infant outcomes may be explained by several reasons. Parents who follow mindful parenting and compassionate training in a group feel less alone in the difficulties they experience in early parenthood, and they may feel reassured by the fact that other parents experience difficulties as well (Potharst et al., 2019). This may promote a sense of common humanity and acceptance of their emotions (Neff, 2003). Furthermore, mindfulness practices help parents break the habitual tendency to be overly preoccupied (which may interfere with the attention provided to the infant), promoting positive parent-infant interactions and the quality of their relationship. In addition, mindfulness practices may allow parents to see the patterns of the mind and to deal with the tendency to be on autopilot (Hughes et al., 2009; Siegel & Hartzell, 2013), which consequently may allow them to be more sensitive, responsive and fully present in their parenting.

Limitations and Strengths

There are several limitations of the studies and the review levels that should be highlighted. Most studies were conducted in US, which makes it difficult to generalize these findings. Therefore, future studies are needed to adapt mindfulness and compassion-based parenting interventions to diverse cultural and social contexts (Sethi & Sharma, 2018). Most studies were conducted with mothers, and only a small number of studies included fathers in the intervention (*n* = 2) (Petteys & Adoumie, 2018; Poehlmann-Tynan et al., 2019). Furthermore, the mindfulness and compassion intervention approaches included in this review differed between studies. Almost all studies combined mindfulness or compassion components with another components. Because a quantitative analysis it is not possible, it is difficult to understand which approach is more efficacious or effective. Moreover, there was several variables that we should take into consideration when interpretating these results, such as the age of the children, the number of children, which may have contributed to the outcomes of the interventions. In addition, the different studies used different facilitators (mental health vs. non-mental health vs. both), which may result in inconsistency in delivery format of the interventions. Methodologically, at the review level, only one researcher screened the titles and abstracts of the electronic search, which may have resulted in potentially missed studies or biased exclusion of articles. In addition, not including gray literature and articles publish in languages other than English may have introduced publication bias. Finally, the quality of the intervention design and evaluation was not quantitively assessed thought a meta-analysis because of the significant heterogeneity across studies.

Despite these limitations, this systematic review has several strengths that should be mentioned. The search strategy was developed in line with the PRISMA statement and provides transparency about how the articles were analyzed to allow for replication. Moreover, this review extends the existing literature by including and synthetizing information about a wide range of interventions applied to the postpartum period. It involved a comprehensive search, including 86 articles following the full-text assessment of 1651 studies. Additionally, this review had no restrictions on the date search, prior to December 2019. Generally, this systematic review allowed the authors to qualitatively understand the main characteristics, components, strategies, and research methodologies used in interventions, during this period of life to better promote parenting skills and quality of parent-infant relationships.

Future Directions and Implications for Clinical Practice

Mindfulness and self-compassion are considered modifiable traits (Gammer et al., 2020; Perez-Blasco et al., 2013; Potharst et al., 2017) and protective skills that could help parents during the postpartum period (e.g., Potharst et al., 2017). This systematic review provides further

evidence of their positive effects for parents of infants. Although a meta-analysis was not conducted, to understand which approach is more efficacious or effective, suggesting the need for caution when interpreting these findings, it is important to note that two quantitative studies have fulfilled all the criteria of assessment of risk bias and showed to be effective in several outcomes. For instance, mindfulness- and compassion-based interventions showed to be effective in the promotion of the quality of parenting behavior, mindful parenting (Gannon et al., 2017), maternal mindfulness, self-compassion, well-being, warmth, responsivity and in the decrease of maternal psychopathology, parenting stress and hostility (Potharst et al., 2017). Additionally, and taking into consideration that literature suggests that methodologically rigorous trials, namely randomized clinical trials (RCT) became the gold standard for establishing an evidence-based psychological treatment (David et al., 2017), may greater relevance should be given to the RCT designs, such as the study developed by (Perez-Blasco et al., 2013). Methodologically, this study was the most robust RCT, and showed efficacy in promoting several parenting outcomes.

Additional methodologically rigorous trials of mindfulness and compassion interventions applied to this period with a clear focus on promoting parenting skills and the quality of the parent-infant relationship are needed. Moreover, future studies should compare face-to-face, group/individual interventions with alternative formats (e.g., home-visit) as well as the cost and effectiveness of each method of delivery. Similarly, future longitudinal studies with longer follow-up timepoints should be conducted to better understand the influence of intervention on parent-infant outcomes.

Despite the growing body of literature, and in line with the results of this review, there are a few existent interventions applied to the postpartum period that teach parents how to better regulate their emotions in parenting and address the parent-infant relationship. Although this study does not allow to draw conclusion about the most efficacious or effective intervention, the comprehensibility of several intervention characteristics, the therapeutic goals established, the strategies used, and the research methodologies employed, may be useful for researchers and intervention managers involved in the design and development of interventions and their delivery. Additionally, it may be useful to enhance existing psychological parenting interventions or to contribute to the development of new evidence-based psychological parenting interventions that aim to promote parenting skills and the quality of parent-infant relationships through mindfulness and compassion targeting postpartum parents (e.g., Potharst et al., 2017). The application of mindfulness- and compassion-based parenting interventions to the postpartum period remains a promising approach worthy of further research.

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Compliance with Ethical Standards

Ethical Approval: This article does not contain any studies with human participation or animals performed by any of the authors.

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Authors' Contributions

DVF and HM conceptualized and designed the study. DVF conducted the search strategy, reviewed the titles and abstracts of the electronic and reference list searches, assessed the studies for eligibility, and wrote the paper. DVF and ARM developed the database searching, study selection and collected data; HM collaborated with the design and writing of the study and assisted with the data. DVF wrote the first draft of the manuscript. MCC collaborated in editing the final manuscript. All authors have read and approved the final version of the manuscript for submission.

Additional Files

Supporting information: Supplementary file 1. Example of search strategy used in PsycINFO via OvidSP (modified as needed for use in the other databases).

File format: Microsoft Word document (.docx). This file describes the search strategy used in the PsycINFO electronic database (performed using OvidSP), including results for each search term, and the exclusion criteria defined when considering the studies to be included in the systematic review.

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Estudo Empírico I

The mediating role of parenting stress in the relationship between anxious and depressive symptomatology, mothers' perception of infant temperament, and mindful parenting during the postpartum period

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The mediating role of parenting stress in the relationship between anxious and depressive symptomatology, mothers' perception of infant temperament, and mindful parenting during the postpartum period

Abstract

Objectives: To investigate whether mindful parenting differs according to maternal anxious and/or depressive symptomatology and mothers' perception of infant temperament and to explore the potential mediating role of parenting stress in the relationship between anxious and depressive symptomatology, perception of infant temperament and mindful parenting. **Methods**: The sample comprised 560 mothers (18-46 years) with a child 12 months old or younger, who completed the Hospital Anxiety and Depression Scale, the Parental Stress Scale and the Interpersonal Mindfulness in Parenting Scale – Infant version. **Results**: Approximately 22.1% of the mothers presented clinically significant anxious and depressive symptomatology levels. Those mothers had significantly higher levels of parenting stress and lower levels of mindful parenting than mothers with normal levels of anxious and depressive symptomatology. Mothers who perceived their infant temperament as difficult had significantly higher levels of parenting stress and lower levels of mindful parenting than those who perceived their infant temperament as easier. A path model was tested through structural equation modeling. Parenting stress mediated the relationship between anxious and depressive symptomatology and mothers' perception of infant temperament and mindful parenting. **Conclusions**: Parenting stress seems to be an important mechanism explaining the associations between maternal anxious and depressive symptomatology, the perception of infant temperament and mindful parenting. During the postpartum period, it is important to identify mothers with anxious/depressive symptomatology, as they appear to contribute to parenting stress and to be related to parenting skills. Psychological interventions may focus on reducing that symptomatology and parenting stress and promoting mindful parenting skills.

***Keywords**:* Mindful parenting; Parenting stress; Anxious and/or depressive symptomatology; Postpartum

The transition to parenthood encompasses several changes at a personal and interpersonal level (Akiki at al., 2016), such as the acquisition of a new role and new care tasks (Caroli & Sagone, 2014). Even if being a parent is one of the most significant and gratifying experiences in an individual's life, the emotional, behavioral and cognitive readjustments that occur in the early parental period can increase one's vulnerability to developing psychopathology (e.g., Czarnocka & Slade, 2000; Epifanio at al., 2015; Goodman, 2004) and can generate stress (Razurel et al., 2011), particularly parenting stress (Epifanio et al., 2015).

Some studies have demonstrated that parental psychopathology or psychopathological symptoms in the postpartum period, including postpartum depression (Carter at al., 2001; Kleinman & Reizer, 2018) and anxious symptomatology (Seymour et al., 2015), as well as parenting stress (Moe et al., 2018) and other variables such as a negative perception of the infant temperament (Mäntymaa et al., 2006), are risk factors for negative parenting behaviors, such as hostility, lower sensitivity and dysfunctional interactions in the first 12 months after birth (Goodman et al., 2017). Therefore, it is plausible that these factors can also negatively influence the parents' ability to adopt a mindful parenting approach in their relationship with their baby. Nevertheless, the role of these parental variables in mindful parenting in the postpartum period has not yet been investigated. Considering that the quality of the early parent-child relationship has long-term consequences for the well-being (Shaddix & Duncan, 2016) and the development of the child at several levels (Miller et al., 2011), it is of utmost importance to understand which factors can influence parenting behaviors and styles, including a mindful parenting style, in this early parenting period.

Mindful parenting is the application of mindfulness to the parenting context, and it can be defined as a way of parenting that involves bringing mindful awareness to parent-child interactions (Bögels & Restifo, 2014). Therefore, mindful parenting reflects the parents' capacity to interact with the child in a more accepting, emotionally attuned, and compassionate way (Coatsworth et al., 2018). Mindful parenting is a parenting style that encompasses several aspects, such as *listening with full attention* (i.e., directing complete attention to the child and being fully present during parent-child interactions); *self-regulation in the parenting relationship* (i.e., being able to pause before reacting in order to choose parenting behaviors that are in accordance with values and goals); *emotional awareness of the child* (i.e., noticing and correctly identifying child's emotions); *compassion for the child* (i.e., being kind to and supportive of the child, sensitive and responsive to the child's needs) and a *non-judgmental acceptance of parental functioning* (i.e., accepting the characteristics and behaviors of the child, the self as a parent and the challenges of parenting) (de Bruin et al., 2014; Duncan et. al., 2009; Moreira & Canavarro, 2017). The quality of the parent-child relationship can be improved through the promotion of these dimensions, which

allow parents to develop a non-reactive, calm and consistent stance toward their children that is in accordance with their parenting values and goals. In addition, mindful parents might also be more able to interrupt a judgmental attitude when interacting with their child and to objectively assess in the present moment the child's behavior and the parent-child interaction, which in turn can improve the parent-child relationship (Duncan et al., 2009).

Several studies have demonstrated positive associations between mindful parenting and positive outcomes for the parent, child and their relationship. For instance, higher levels of mindful parenting were found to be associated with more positive parental practices (Coatsworth et al., 2010; Coatsworth et al., 2018; Gouveia et al., 2016; Han et al., 2019; Williams and Wahler, 2010) and more positive parent-child relationships (Coatsworth et al., 2010; Coatsworth et al., 2018; Medeiros et al., 2016). Nevertheless, these studies were conducted among parents of children and adolescents, and research on mindful parenting in the postpartum period is virtually nonexistent. Some exceptions are the study of Laurent et al. (2017) that explored the effects of mindful parenting on mothers' and their infants' cortisol levels during the first 6 months postpartum; the study developed by Potharst et al. (2017) that demonstrated the efficacy of a mindful parenting training for parents of babies up to 18 months in reducing parenting stress, maternal psychopathology and hostility towards the baby, and promoting mindful parenting, mindfulness, self-compassion, well-being, confidence in parenting, parental affection, and responsivity; and also the studies developed by Short et al. (2017), Gannon et al. (2017), and Gannon et al. (2019) that developed a mindfulness-based parenting intervention for mothers with opioid use disorder and demonstrated its efficacy in improving the quality of parenting behaviors and dyadic attachment.

In fact, there is ample evidence that mindful parenting can predict several parent and child outcomes; nevertheless, the research on the variables that can facilitate or hinder the adoption of this parental approach, particularly in the postpartum period, is still very scarce. According to Belsky's (1984) process model of the determinants of parenting, parental functioning (e.g., parenting styles, parenting stress) is directly influenced by variables related to the parent (e.g., personality and psychopathology), the child (e.g., the child's characteristics such as temperament), and the broader social context in which the parent-child relationship is embedded (e.g., marital relations, social networks, and occupational experiences of parents). Several studies, including longitudinal studies, have consistently supported this model among parents in the postpartum period (e.g., Goodman et al., 2017; Letourneau et al., 2013; Zheng et al., 2018), demonstrating that parenting behaviors are strongly influenced by a myriad of intrapersonal, interpersonal and contextual factors.

For instance, experiencing psychopathological symptoms, such as anxious and depressive symptoms, has consistently been shown to constitute a risk for the mother-infant dyad (Carter et al., 2001; Hipwell et al., 2000; Milgrom & Holt, 2014). In fact, mothers with psychopathology or experiencing psychopathological symptoms during the postpartum period, have greater difficulties in their parenting role, tend to respond less to their infant's cues (Missler et al., 2018; Warnock et al., 2016), and their interactions with their infants tend to be of lower quality (Aoyagi et al., 2019; Carter et al., 2001; Goodman et al., 2017; Horowitz et al., 2019; Jones et al., 2019; Ngai et al., 2010; Tietz et al., 2014). Some recent literature reviews suggested that postpartum depression has a long-term negative effect on children's social, emotional, cognitive and physical development (Slomian et al., 2019) and that experiencing anxiety in the postpartum period negatively affects breastfeeding, early interactions, temperament, sleep and the cognitive development of the child (Field, 2018).

Studies with parents of older children have also suggested that mothers' psychopathological symptoms, particularly anxious and depressive symptoms, negatively interfere with their ability to adopt a mindful stance in parenting. For instance, in a study that included a community sample of parents of school-aged children and adolescents, higher levels of parental anxious and depressive symptomatology and higher levels of parenting stress were found to predict lower levels of mindful parenting dimensions (Moreira et al. 2019). Similarly, another study that included 685 mother-adolescent dyads from the general community demonstrated that mothers with clinically significant levels of anxious and/or depressive symptomatology (i.e., mothers who scored above the cut-off of the Hospital Anxiety and Depression Scale) presented significantly lower levels of mindful parenting than those in the normal range of symptomatology (Moreira &Canavarro, 2018b).

With regard to the child's variables, infant temperament has been shown to be particularly important to the parental functioning in the postpartum period. Infant temperament has been defined as the infant's ability to adapt comfortably to the demands or requirements of each situation and to adjust behavior in a flexible way (DelCarmen-Wiggins & Carter, 2004) and can explain infants' individual differences in emotional and behavioral responses to internal and external stimuli (Stifter & Wiggins, 2004). A difficult infant temperament, characterized, for instance, by fussing, crying or requiring a long time to regulate negative affect, has been shown to negatively affect family interactions (Stifter & Wiggins, 2004), increase mothers' difficulty in providing care for the baby (Zheng et al., 2018), and increase mothers' parenting stress. In fact, a more irritable, demanding or withdrawn child can elicit parental irritation and withdrawal of contact or stimulation (Putnam et al., 2002). According to Putnam et al. (2002) mothers who negatively perceive their infant temperament seems to be less sensitive in mother-child

interactions. There is also some longitudinal (e.g., Porter & Hsu, 2003) and cross-sectional (Mäntymaa et al., 2006) studies, conducted among parents in the postpartum period, showing that mothers who negatively perceive their infant temperament have poor maternal behavior and less sense of self-efficacy in parenting.

Both parental anxious and depressive symptomatology (Crugnola et al., 2016) and a negative perception of infant temperament (Kwon et al., 2006; McBride et al., 2002; Oddi et al., 2013) can generate high levels of parenting stress. This result is problematic because parenting stress is a factor that has an important impact on early mother-infant interactions and later child development (Booth et al., 2018; Dau et al., 2019; Deater-Deckard, 1998; Vismara et al., 2016). Parenting stress has been associated with the development of dysfunctional parent-child relationships, and it is an important risk factor for child psychopathology (e.g., emotional and behavioral problems in children) (Deater-Deckard, 1998; Fredriksen et al., 2019; Kennedy, 2012). Furthermore, parenting stress constitutes a risk factor for negative parenting behaviors, as shown in several longitudinal studies with parents of babies (Dau et al., 2019; Le et al., 2017; Oxford & Lee, 2011) and preschool and elementary school children (Rafferty & Griffin, 2010; Respler-Herman et al., 2012). For instance, a longitudinal study developed by Dau et al. (2019), showed that higher levels of parenting stress were associated with lower maternal sensitivity and lower positive regard for the child.

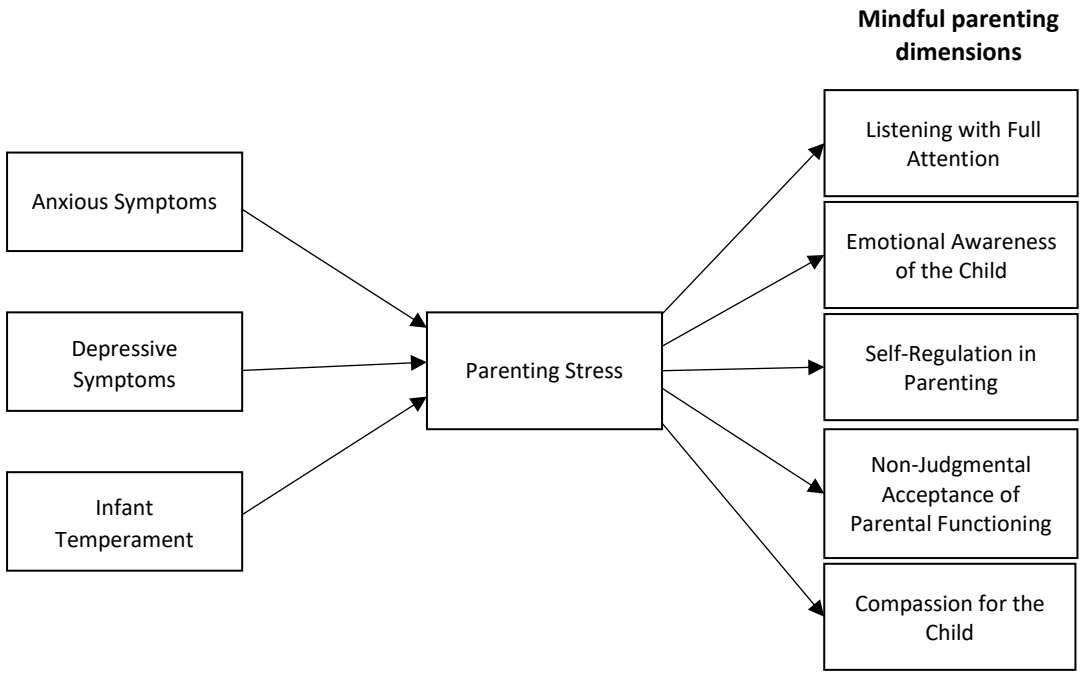
There is also evidence that parenting stress decreases parents' capacity to adopt a mindful approach in parenting (Beer et al., 2013; Bögels & Restifo, 2014; Corthorn, 2018; Corthorn & Milicic, 2016; Gouveia et al., 2016; Moreira & Canavarro, 2018a). For instance, in a study that included mothers of children and adolescents from the general community, Moreira and Canavarro (2018a)) demonstrated that parenting stress was significantly and negatively associated with all dimensions of mindful parenting. Similarly, Gouveia et al. (2016) demonstrated that the parenting stress of fathers and mothers of children aged 8 to 18 years was negatively associated with both mindful parenting and an authoritative parenting style and was positively associated with permissive and authoritarian parenting styles. Although there is growing evidence that parenting stress has a detrimental effect on the ability of parents of children and adolescents to adopt a mindful parenting style, far less attention has been devoted to examining this association in the postpartum period.

Considering that parental functioning is determined by multiple factors (Belsky, 1984) and that the postpartum period marks the beginning of mutual interactions that are crucial to the mother-baby relationship (Nagata et al., 2003), it is very important to identify and better understand which variables and mechanisms can be related to parental behaviors and facilitate or hinder the adoption of adaptive parenting styles, such as a mindful parenting style. There is

evidence that parental psychopathological symptoms (particularly, anxious and depressive symptoms), a negative perception of the infant temperament, and parenting stress in the postpartum period represent risk factors for negative parental behaviors (Epifanio et al., 2015; Micalizzi et al., 2017). The current study intends to investigate whether levels of mindful parenting dimensions differ according to mothers' levels of anxious and/or depressive symptomatology and according to the mothers' perception of their infant temperament. Based on previous studies, we hypothesize that mothers who report clinically significant levels of anxious and/or depressive symptomatology and who have a more negative perception of their infant temperament will exhibit lower levels of mindful parenting. We also intend to examine whether parenting stress mediates the relationship between three important parent or child variables (i.e., anxious symptoms, depressive symptoms and infant temperament) and mindful parenting dimensions. We hypothesize that parenting stress will mediate the relationship between anxious and depressive symptomatology and mindful parenting, as well as the relationship between the mother's perception of their infant temperament and mindful parenting. The conceptual model of the current study is presented in Figure 1.

Figure 1

Conceptual Model of the Current Study



Method

Participants

The sample included 560 Portuguese mothers of babies aged between 0 and 12 months old. Most mothers were living in a nuclear family type (i.e., a family with two parents and their children), had completed higher education and were employed. The sociodemographic and clinical characteristics of the mothers and their children are presented in Table 1.

Table 1

Sociodemographic and Clinical Characteristics of the Sample

	N = 560
Parents' characteristics	
Mothers' age (years) *M*(*SD*); range	32.81 (4.65); 18-46
Marital status n (%)	
Living with a partner	535 (95.5%)
Not living with a partner	25 (4.5%)
Type of family n (%)	
Single-parent	14 (2.5%)
Nuclear	488 (87.1%)
Reconstituted	8 (1.4%)
Extended	50 (8.9%)
Number of children M(*SD*); range	1.39 (0.64); 1-5
Education n (%)	
Basic or secondary education	151 (27%)
Higher education	409 (73%)
Employment status n (%)	
Employed	467 (83.4%)
Unemployed, housewives, full-time mothers, students	93 (16.6%)
Household monthly income n* (%)	
Less than 2000€	408 (72.9%)
2000€ or above	152 (27.1%)
Area of residence n (%)	
Urban	411 (73.4%)
Rural	149 (26.6%)
Babies' characteristics	
Age (months) *M*(*SD*); range	5.29 (3.14); 0-12
Sex n (%)	
Girls	266 (47.5%)
Boys	294 (52.5%)

Mothers' clinical characteristics	
Desired pregnancy	
Yes	546 (97.5%)
No	14 (2.5%)
Planned pregnancy	
Yes	426 (76.1%)
No	134 (23.9%)
Current diagnosis of a psychological and/or psychiatric *problem*	
Yes	34 (6.1%)
No	526 (93.9%)
Current psychological treatment	
Yes	33 (5.9%)
No	527 (94.1%)
Method of conception	
Spontaneous	524 (93.6%)
Medically assisted	36 (6.4%)
Obstetric complications	
In mothers	167 (29.8%)
In babies	36 (6.4%)

* The Portuguese minimum wage in 2019 was 600€

Procedure

The sample was recruited online through a data collection website (LimeSurvey®). The participants were invited to participate in a study through social networks, including parenting forums and Facebook pages, about parenting issues after the birth of a child. A Facebook page about parenting and mental health during the postpartum period was specifically created for the study, and several advertisements were posted on that page, as well as on other Facebook pages and social networks, explaining the main goals of the study, presenting the study's inclusion criteria, and containing the web link to the survey hosted in LimeSurvey®. The page was shared through unpaid cross-posting, through paid boosting campaigns and through e-mail. Participants' enrollment in the study occurred between December 2018 and February 2019. The inclusion criteria were (i) being Portuguese; (ii) being over 18 years old and (iii) having at least one child between zero and 12 months old.

The first page of the online protocol provided a description of the study objectives, the inclusion criteria, and the ethical statement of the study. The participants were informed that their participation in the study was voluntary and anonymous, and that no identifying information would be collected. Only those who agreed to the study conditions and provided their informed consent completed the assessment protocol. Of the 632 completed questionnaires, 17 mothers

were excluded because of their nationality (they were not Portuguese), 13 mothers were excluded because their babies were more than 12 months old, and 42 mothers were excluded because of missing information on one or more important sociodemographic variables.

Measures

Sociodemographic and Clinical Information

The first part of the web survey started with standard sociodemographic information (e.g., age, marital status, educational level, employment status, and average monthly income) and clinical data (e.g., obstetric information and prior history of psychopathological problems). The diagnosis of a psychological or psychiatric disorder was assessed through the following question: "Are you currently diagnosed with a psychological or psychiatric problem (e.g., anxiety, depression)?"

Anxious and Depressive Symptomatology

The Portuguese version of the Hospital Anxiety and Depression Scale (HADS; Snaith & Zigmond, 1994; Pais-Ribeiro et al., 2007) was used to assess levels of anxious and depressive symptomatology in the previous week. This questionnaire contains 14 items (e.g., “I feel tense or wound up”; “I still enjoy the things I used to enjoy”) and uses a 4-point Likert scale, ranging from 0 (*not at all/only occasionally*) to 3 (*most of the time/a great deal of the time*), with higher scores indicating higher levels of symptomatology. Scores between 0 and 7 are considered “normal”; between 8 and 10, “mild”; between 11 and 14, “moderate”; and between 15 and 21, “severe”. According to Snaith (2003), scores of 11 or higher indicate the possible presence (i.e., “caseness”) of a mood disorder. This instrument has been demonstrated to be a good screening instrument in different clinical populations and has shown robust psychometric properties across a wide range of populations and cultures, including in the Portuguese population, in which the questionnaire presented adequate reliability and construct validity (Pais-Ribeiro et al., 2007). In this sample, Cronbach's alpha coefficients were .83 for anxiety and .78 for depression.

Infant Temperament

A self-report item was developed by the authors to assess the mothers’ perception of their infant temperament (“In general, I consider that my infant temperament is…”), which was answered on a 4-point Likert scale (1 - *very difficult*; 2 - *difficult*; 3 - *easy*; 4 - *very easy*). Therefore, higher scores on this variable suggested that the mother perceived an easier temperament.

Parenting Stress

The Portuguese version of the Parental Stress Scale (PSS; Berry & Jones, 1995; Mixão et al., 2010) was used to assess the distress associated with the parental role. The questionnaire has 18 items (e.g., “Caring for my child(ren) sometimes takes more time and energy than I have to give”)

answered on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The total score is calculated as the sum of the items, with higher scores indicating higher parenting stress. Both the original and the Portuguese versions present adequate psychometric properties, including adequate reliability ($\alpha > .80$) and construct validity. In this sample, Cronbach's alpha coefficient was .86.

Mindful Parenting

An adaptation of the Portuguese Interpersonal Mindfulness in Parenting Scale (IM-P - Infant version) (Duncan, 2007; Moreira & Canavarro, 2017) was used to assess mindful parenting among parents of infants. The infant version is similar to the original Portuguese IM-P, but items were adapted for parents of infants. For instance, the item "I often react too quickly to what my child says or does" was modified to "I often react too quickly when my baby gets agitated or cries". Item 4 was deleted ("I listen carefully to my child's ideas, even when I disagree with them"). Therefore, the final Portuguese IM-P - infant version contains 28 items scored on a 5-point response scale, ranging from 1 (*never true*) to 5 (*always true*). The items are distributed across five subscales, following the structure of the Portuguese IM-P version (Moreira & Canavarro, 2017): (1) Listening with Full Attention (LFA) (e.g., "I find myself paying little attention to my baby because I am busy doing or thinking about something else at the same time"; (2) Compassion for the Child (CC) (e.g., "I am kind to my baby when he/she is tearful, restless or upset with something"), (3) Non-Judgmental Acceptance of Parental Functioning (NJAPF) (e.g., "I tend to criticize myself for not being the kind of parent I want to be"), (4) Self-Regulation in Parenting (SR) (e.g., "I am upset with my baby, I notice how I am feeling before I take action"), and (5) Emotional Awareness of the Child (EAC) (e.g., "It is hard for me tell what my baby is feeling"). The subscale scores are the sum of the items, and higher scores indicate higher levels of the mindful parenting dimensions. If the parents had more than one child, they were instructed to focus on their baby aged between 0 and 12 months old.

The IM-P scores have shown reliability and construct validity in American and Dutch samples (de Bruin et al., 2014; Duncan, 2007). The Portuguese IM-P has also shown adequate psychometric properties, including reliability and construct validity (Moreira & Canavarro, 2017). As this is an adapted version of the original IM-P, a confirmatory factor analysis (CFA) was conducted in the present sample to confirm whether the IM-P five-factor structure would fit the data. A correlated five-factor model exhibited an adequate fit to the data, $\chi^2(337) = 884.14$, $p < .001$; comparative fit index (CFI) = .903; standardized root mean square residual (SMSR) = .053; and root mean square error of approximation (RMSEA) = .054, with 90% bias-corrected confidence interval, BC90%CI = [.05, .06]. In this sample, Cronbach's alpha coefficients were .84 for Listening with Full Attention, .76 for Compassion for the Child, .77 for Non-Judgmental

Acceptance of Parental Functioning, .75 for Self-Regulation in Parenting and .68 for Emotional Awareness of the Child.

Data Analyses

Data analyses were conducted using the Statistical Package for the Social Sciences (SPSS, version 22.0; IBM SPSS, Chicago, IL) and the AMOS 22 (IBM® SPSS® AMOS™ Version 22.0).

Descriptive statistics were computed for all sociodemographic and study variables. Differences in mindful parenting dimensions and parenting stress were analyzed as a function of the mothers' symptoms of anxiety and depression and their perception of their infant temperament through MANOVAs (for mindful parenting dimensions) and ANOVAs (for parenting stress). Based on HADS cut-off scores, two groups were created: 1) a group with normal/mild anxious and depressive symptomatology (HADS scores < 11 in both subscales; normal symptomatology group); and 2) a group with clinically significant levels of anxious and/or depressive symptomatology (HADS anxious and/or depressive scores ≥ 11; clinically significant symptomatology group). Regarding the perception of the infant temperament, two groups were also created: 1) easy temperament (mothers who rated their infant temperament as "easy" or "very easy") and 2) difficult temperament (corresponding to mothers who rated their infant temperament as "difficult" or "very difficult"). Pearson correlations between study variables were computed. Cohen's guidelines (1988) were used to describe and interpret the effect sizes of correlations (i.e., small effect size for correlations close to .10, medium for those near .30, and large for correlations .50 or higher).

To examine whether mothers' anxious and depressive symptomatology and their perception of their infant temperament were associated with mindful parenting dimensions through parenting stress, a path model was tested using the maximum likelihood estimation method. In the path model, continuous scores were used rather than the categories used for the previous comparison analyses. The criteria for a good model fit were a nonsignificant χ^2 ($p > .05$), CFI ≥ .95, RMSEA ≤ .06, and SRMR ≤ .08 (Hu & Bentler, 1999). The statistical significance of the indirect effects was estimated using bootstrap resampling procedures with 5000 samples and a 95% bias-corrected confidence interval (BC95%CI).

Results

Mindful Parenting Dimensions and Parenting Stress: Comparative Analyses

Anxious and Depressive Symptomatology

Most mothers reported normal or mild levels of anxious and/or depressive symptomatology (*n* = 436, 77.9%) and 22.1% (*n* = 124) reported clinically significant levels of those symptoms (i.e., scored ≥11 on one or both HADS subscales). These groups (normal symptomology versus clinically significant symptomatology) were compared in terms of levels of mindful parenting. The multivariate effect was significant, Wilk's Lambda = 0.824, $F_{(5, 554)} = 23.73$, $p < .001$, $\eta^2_p = .176$. As presented in Table 2, significant differences were found in all mindful parenting dimensions, with mothers who had clinically significant levels of anxious and/or depressive symptomatology reporting lower levels of all mindful parenting dimensions than mothers who had normal levels of anxious and/or depressive symptomatology.

The two groups were also compared in terms of levels of parenting stress. As presented in Table 2, significant differences were found in levels of parenting stress, with mothers who had clinically significant levels of anxious and/or depressive symptomatology presenting higher levels of parenting stress than mothers who had normal levels of those symptoms.

Infant Temperament

Most mothers rated their infant temperament as being easy/very easy (*n* = 444; 79.3%) and 20.7% (*n* = 116) rated their infant temperament as being difficult/very difficult. These two groups were compared in terms of levels of mindful parenting dimensions. The multivariate effect was significant, Wilk's Lambda = 0.942, $F_{(5, 554)} = 6.81$, $p < .001$, $\eta^2_p = .058$. As presented in Table 2, significant differences were found in almost all mindful parenting dimensions, with mothers who perceived their infant temperament as being difficult/very difficult presenting lower levels of all mindful parenting dimensions, with the exception of the dimension Listening with Full Attention.

Significant differences were also found in parenting stress levels, with mothers who perceived their infant temperament as being difficult/very difficult presenting higher levels of parenting stress than mothers who perceived their infant temperament as being easy/very easy.

Table 2

Comparison Analyses According to Symptoms of Anxiety and Depression and Infant's Temperament

	Symptoms of Anxiety and Depression					Perception of Infant Temperament				
	No symptoms group	Clinically significant symptoms of anxiety and depression group	Comparison analyses			Easy perceived temperament	Difficult perceived temperament	Comparison analyses		
	M (*SD*) *n* = 436	*M* (*SD*) *n* = 124	*F*	η^2_p	*p* values	*M* (*SD*) *n* = 444	*M* (*SD*) *n* = 116	*F*	$\eta^2 p$	*p* values
LFA	21.10 (2.85)	19.77 (3.36)	19.31	.033	< .001	20.89 (2.93)	20.49 (3.32)	1.61	.003	.205
EAC	11.69 (1.84)	10.73 (2.12)	24.33	.042	< .001	11.68 (1.85)	10.72 (2.11)	23.43	.040	< .001
SR	30.92 (4.23)	27.60 (4.81)	55.97	.091	< .001	30.59 (4.31)	28.65 (5.21)	17.00	.030	< .001
NJAPF	25.74 (4.49)	20.92 (4.40)	112.21	.167	< .001	25.11 (4.78)	23.01 (5)	17.40	.030	< .001
CC	22.33 (2.21)	21.39 (2.73)	15.85	.028	< .001	22.28 (2.22)	21.53 (2.78)	9.21	.016	.003
PSS	36.39 (7.72)	45.62 (8.66)	130.48		< .001	37.29 (8.33)	42.82 (9.24)	38.66		< .001

Note. LFA = Listening with Full Attention; EAC = Emotional Awareness of the Child; SR = Self-Regulation in Parenting; NJAPF = Non-Judgmental Acceptance of Parental Functioning; CC = Compassion for the Child; PSS = Parenting Stress

Correlations Between Variables

Correlations between study variables are presented in Table 3. All correlations were significant ($p < .01$), except for the correlation between temperament and Listening with the Full Attention. Anxiety and depression were positively correlated with parenting stress and negatively correlated with mothers' perception of infant temperament and all mindful parenting dimensions. Mothers' perception of infant temperament was negatively correlated with parenting stress and positively correlated with all mindful parenting dimensions, and parenting stress was negatively correlated with all mindful parenting dimensions.

Correlations between sociodemographic, clinical, and study variables were also analyzed to identify potential covariates that should be included in the path model. Listening with Full Attention was significantly associated with mothers' age ($r = -.12$, $p = .005$), parental education level (0 = basic or secondary education, 1 = higher education; $r = -.15$, $p < .001$), household monthly income (0 = less than 2000€; 1 = 2000€ or above; $r = -.12$, $p = .004$), and number of children ($r = -.12$, $p = .005$). Emotional Awareness of the Child was significantly associated with parental education level ($r = -.09$, $p = .036$) and baby's age ($r = .16$, $p < .001$). Non-Judgmental Acceptance of Parental Functioning was significantly associated with mothers' age ($r = .11$, $p = .013$), employment status (0 = unemployed; 1= employed, housewives, full-time mothers, students; $r = .10$, $p = .015$) and current psychological treatment (0 = no; 1 = yes; $r = -.13$, $p = .002$). Therefore, mothers' age, education level, household monthly income, number of children, employment status, current psychological treatment, and baby's age were introduced as covariates in the model.

Table 3

Correlations Between Study Variables

	1	2	3	4	5	6	7	8
1 Anxiety	--							
2 Depression	.71**	--						
3 Infant temperament	-.26**	-.28**	--					
4 Parenting stress	.58**	.62**	-.29**	--				
5 Listening with full attention	-.25**	-.27**	.06	-.46**	--			
6 Emotional awareness of the child	-.29**	-.35**	.23**	-.50**	.45**	-		
7 Self-regulation in parenting	-.41**	-.39**	.21**	-.54**	.52**	.51**	-	
8 Non-judgmental acceptance of parental functioning	-.55**	-.51**	.21**	-.59**	.35**	.43**	.57**	-
9 Compassion for the child	-.23**	-.28**	.14**	-.46**	.53**	.49**	.61**	.37**

*$p < .05$; **$p < .01$

Mediation Analyses

The initial model failed to present an adequate fit to the data, $\chi^2_{(85)} = 837.46$, $p < .001$; CFI = .697; SRMR = .098; RMSEA = .126, $p < .001$; 90% CI = [.12, .13]. Therefore, modification indices were examined, suggesting that the residuals of some mindful parenting dimensions might be correlated (Listening with Full Attention with Emotional Awareness of the Child, Self-Regulation in Parenting and Compassion for the Child; Emotional Awareness of the Child with Self-Regulation in Parenting and Compassion for the Child; Self-Regulation in Parenting with Non-Judgmental Acceptance of Parental Functioning and Compassion for the Child) and that some covariables might be correlated (mothers' age with number of children, employment status, and education level; employment status with education level and household monthly income; and education level with household monthly income). The re-specified path model had a good fit to the data, $\chi^2_{(72)} = 178.72$, $p < .001$; CFI = .957; SRMR = .054; RMSEA = .051, $p = .383$; 90% CI = [.042, .061] and explained 43% of parenting stress, 25.3% of Listening with Full Attention, 29.3% of Emotional Awareness of the Child, 31.8% of Self-Regulation in Parenting, 41.5% of Non-Judgmental Acceptance of Parental Functioning, and 21.6% of Compassion for the Child variances (see Figure 2).

Direct and total effects are presented in Figure 2, and indirect effects are presented in Table 4. With regard to depression, although the total effects of depression on mindful parenting dimensions were all significant, none of the direct effects were significant. In fact, as presented in Table 4, depression was indirectly associated with all mindful parenting dimensions through parenting stress. Regarding anxiety, there was a significant total effect on Listening with Full Attention and a significant total and direct effect on Self-Regulation in Parenting and Non-Judgmental Acceptance of Parental Functioning, as presented in Figure 2. All indirect effects of anxiety on mindful parenting were significant through parenting stress. Finally, the perception of temperament had a significant total effect on Self-Regulation in Parenting and a significant total and direct effect on Emotional Awareness of the Child. Regarding indirect effects, perception of temperament was also indirectly associated with all mindful parenting dimensions through parenting stress.

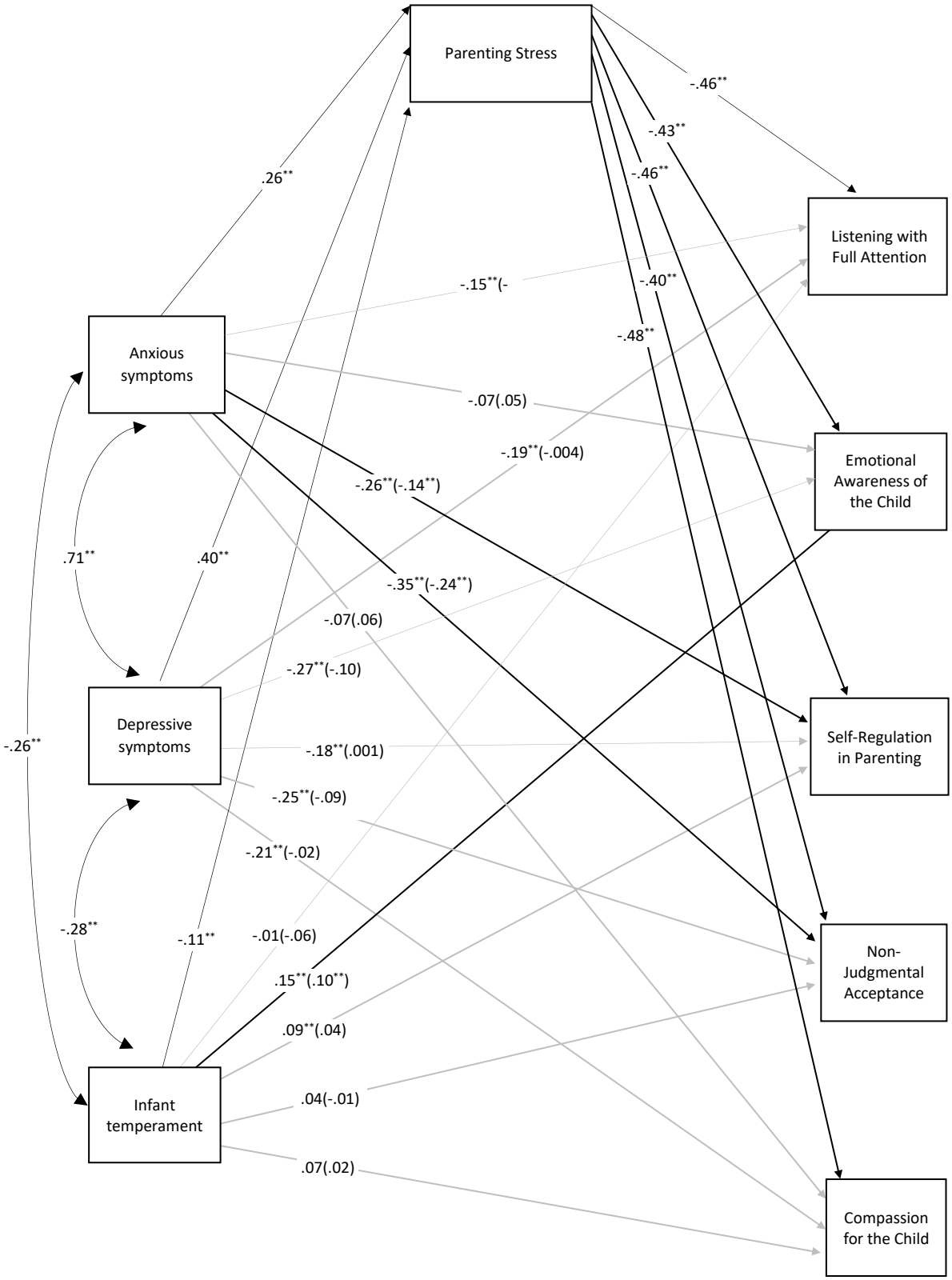
Table 4

Indirect Effects of Anxiety, Depression and Perception of Temperament on Dimensions of Mindful Parenting through Parenting Stress

Indirect effects	Standardized coefficients	*p* value	BC90%CI Lower/Upper
Anxiety → PSS → LFA	-.120	< .001	-.173/-.075
Anxiety → PSS → EAC	-113	< .001	-.164/-.069
Anxiety → PSS → SR	-.119	< .001	-.174/-.073
Anxiety → PSS → NJAPF	-.104	< .001	-.155/-.062
Anxiety → PSS → CC	-.127	< .001	-.180/-.079
Depression → PSS → LFA	-.185	< .001	-.252/-.130
Depression → PSS → EAC	-.174	< .001	-.238/-.121
Depression → PSS → SR	-.183	< .001	-.251/-.126
Depression → PSS → NJAPF	-.160	< .001	-.220/-.110
Depression → PSS → CC	-.195	< .001	-.268/-.137
Infant's temperament → PSS → LFA	.049	.001	.019/.085
Infant's temperament → PSS → EAC	.046	.001	.019/.079
Infant's temperament → PSS → SR	.049	.001	.019/.083
Infant's temperament → PSS → NJAPF	.043	.001	.017/.072
Infant's temperament → PSS → CC	.052	.001	.021/.087

Figure 2

Path Model Examining the Associations Between Mothers' Anxious Symptoms, Depressive Symptoms, Infant Temperament, and Mindful Parenting through Parenting Stress.



Note. Path values represent standardized regression coefficients of total effects and direct effects (inside parentheses). For simplicity, covariates and measurement error terms are not shown. $^{**}p < .01$, $^{***}p < .001$

Discussion

In this study, we aimed to investigate whether mindful parenting differed according to some important parent and child-related factors in the postpartum period (mothers' anxious and/or depressive symptomatology and their perception of infant temperament) and to understand whether the association between these variables and mindful parenting was mediated by parenting stress. Overall, our hypotheses were corroborated. Our findings were consistent with previous studies suggesting that mothers who have higher levels of anxious and depressive symptomatology (e.g., Crugnola et al., 2016) and a more negative perception of their infant's temperament (e.g., Oddi et al., 2013) are at a higher risk of experiencing parenting stress and, consequently, of adopting a less mindful approach in their relationship with their child (e.g., Bögels & Restifo, 2014).

Mindful Parenting Dimensions and Parenting Stress

In our sample, 22.1% of the mothers presented with clinically significant levels of anxious and/or depressive symptomatology. These mothers had significantly higher levels of parenting stress and significantly lower levels of mindful parenting than mothers with normal levels of anxious and/or depressive symptomatology. These findings are consistent with previous studies that have shown that more depressed and anxious mothers feel more parenting stress (Crugnola et al., 2016; Forman et al., 2007; Yamamoto et al., 2017) and have more difficulty engaging in a mindful parenting style (Moreira & Canavarro, 2018b). These results may be explained by several factors. First, mothers presenting high levels of depressive symptoms may experience increased rumination and negative thinking, feelings, and body sensations (American Psychatric Association, 2013), which can interfere with a mindful mode of response. This cycle of negative thinking and repetitive thoughts can cause difficulty in decentering or distancing oneself from negative thoughts and can give mothers less space to focus their attention on their child during their interactions, probably making mothers less sensitive and synchronized with their infants (Bögels et al., 2010), which is in line with results of other studies (e.g., Berryhill, 2015; Feldman et al., 2004; Pereira et al., 2012; Swain & Ho, 2017). Similarly, it has been shown that high levels of anxiety symptoms predispose individuals to selectively attending to threat, requiring the utilization of limited processing resources (Walsh et al., 2009). Moreover, mothers with higher levels of anxiety symptoms excessively focus attention on themselves and on their own symptoms, which can interfere with their capacity to direct their attention to their child (Moreira & Canavarro, 2018a), to correctly read their child's behavioral cues, to have an accurate

perception of their child's verbal and nonverbal communication and undermine the mothers' capacity to be responsive to the child's needs and emotions (Duncan et al., 2009). Therefore, we can hypothesize that mothers with higher levels of anxious and/or depressive symptoms have fewer resources available for being openly attentive to and aware of current experiences, and to maintain focus on the present, particularly when interacting with their infants.

Likewise, our findings have shown that mothers who perceived their infant temperament as difficult presented significantly higher levels of parenting stress and lower levels of mindful parenting than those who assessed their infant temperament as easier, which is in accordance with previous literature (e.g., Oddi et al., 2013). In fact, it is expected that a more irritable, demanding, or withdrawn child would elicit parental irritation and withdrawal of contact or stimulation (Putnam et al., 2002) and generate parenting stress (Mäntymaa et al., 2006). In addition, parents of a child who is difficult to soothe are more likely to respond to this child, particularly in a stressful situation, in a relatively more hostile and punitive way, instead of responding with positive affection (Cha, 2018; Putnam et al., 2002). These parents may be more likely to focus on satisfying the immediate needs of the baby (e.g., sleep or feeding) to soothe the baby than to be mindful when interacting with him/her. Therefore, we can hypothesize that having a baby with a difficult temperament can fuel parents' "doing mode" rather than their "being mode" (i.e., the mindful mode) (Williams, 2008), consequently hindering parents' ability to adopt a mindful approach in their relationship with their infant.

Parenting Stress Mediation

With regard to the path model, we found that parenting stress mediated the associations between depressive symptoms, anxious symptoms, and infant temperament and all dimensions of mindful parenting. Interestingly, whereas depressive symptoms were only indirectly associated with mindful parenting through parenting stress, anxious symptoms were also directly associated with Self-Regulation in Parenting and with Non-Judgmental Acceptance of Parenting Functioning; infant temperament was also directly associated with Emotional Awareness of the Child.

Each path of the model can be examined individually. First, we can observe that symptoms of both depression and anxiety were significantly and positively associated with parenting stress. Ruminative and self-critical thoughts in parents with depressive symptoms may lead them to have more difficulty understanding their baby's needs and to perceive themselves as incapable of adjusting to the parental role, consequently leading to higher levels of parenting stress (Leigh & Milgrom, 2008). Likewise, parents who experience anxious symptoms may also find it difficult to accept their own limitations as new parents and may feel that they do not meet their self-defined standards in their parental role (Moreira et al., 2019). They might be more likely to involve

themselves in behaviors such as seeking reassurance or expressing self-doubt (Ginsburg et al., 2005), which can increase their perception that parenting demands exceed their personal resources to respond to those demands. Therefore, parents with higher levels of depressive and/or anxious symptomatology may feel less capable of responding to the demands of being a parent (Deater-Deckard, 1998), which can greatly increase levels of parenting stress.

We can also observe in the path model that perceiving the infant temperament as being more difficult was associated with higher levels of parenting stress. A baby with a difficult temperament may require a long time to regulate negative affect and may cry or fuss more often than a baby with an easier temperament, which can increase levels of parenting stress. In addition, parents who perceive their baby as having a difficult temperament may find it difficult to have a harder time understanding and responding to the baby's needs, which can reduce their sense of competence in their parent role and may lead them to experience higher levels of stress (Gordo et al., 2018; McBride et al., 2002; Oddi et al., 2013).

In turn, parenting stress was found to be negatively associated with all dimensions of mindful parenting, which is in accordance with previous studies (e.g., Emerson et al., 2019; Gouveia et al., 2016; Moreira & Canavarro, 2018a; Zeegers et al., 2019). In general, parenting stress seems to lead to dysfunctional parenting (Abidin, 1992), emerging as an important mechanism explaining the associations between the three hypothesized predictors and all dimensions of mindful parenting. Parents who experience high levels of parenting stress tend to react automatically in parenting situations (Bögels et al., 2014) and tend to have more difficulty self-regulating, which can make it difficult for them to adopt a mindful and compassionate way of parenting. These parents may also feel less competent as parents and, consequently, may be more critical of their parenting role. Their threat system may be activated more often (Siegel & Hartzell, 2013), which may leave them more reactive, less sensitive and warm during parent-child interactions and, thus, less mindful in their parenting style.

Anxious and Depressive Symptomatology and Mindful Parenting Dimensions

In addition to the indirect associations between anxious symptoms and all mindful parenting dimensions through parenting stress, two direct effects were found between anxious symptoms and two mindful parenting dimensions: Self-Regulation in Parenting and Non-Judgmental Acceptance of Parenting Functioning.

Mothers with higher levels of anxious symptoms seem to have more difficulty in regulating their emotions and behaviors in parenting situations, regardless of whether or not they experience parenting stress. These results are consistent with some previous research that although conducted with samples of parents of children and adolescents, have shown that

mothers with anxious symptomatology have more difficulty regulating their emotions and behaviors in parenting situations (e.g., Moreira & Canavarro, 2018b; Moreira et al., 2019). Because anxious mothers are more focused on the threatening and negative aspects of the situations, they may also be more focused on the negative aspects of the relationship with their child, which may lead them to be more impulsive and reactive to their baby's behavior and less able to pause before acting.

With regard to the link between anxious symptoms and Non-judgmental Acceptance of Parenting Functioning, we can suppose that mothers with higher levels of anxious symptoms may have their threat system more frequently and more intensely activated, which may lead them to criticize themselves and to remember and pay more attention to negative events more easily (Baumeister & Leary, 1995; Gilbert, 2014, 2017). Thus, anxious mothers may have more self-critical thoughts and may become more judgmental of their parenting ability and less able to adopt a mindful and compassionate stance towards themselves as parents.

In contrast, the relationship between anxious symptoms and the other dimensions of mindful parenting seems to exist through the experience of parenting stress, which emphasizes the relevance of considering the role of that mediator. When parents experience anxious symptomatology and parenting stress they may find it difficult to accept perceived limitations as parents and feel that they do not meet their self-defined standards in their relationship with their children (Moreira et al., 2019), so they are less able to direct their attention to their child during mother-infant interactions (Listening with Full Attention) and, therefore, fail to notice and correctly identify the child's emotions (Emotional Awareness of the Child). In addition, the experience of parenting stress may explain the mechanism through the negative model of self and increased focus on personal flaws and self-critical rumination, characteristics of anxious individuals, probable impede them from being self-compassionate (Neff & McGehee, 2010) and having an attitude of kindness, sensitivity and responsiveness in parent-child interactions (Compassion for the Child).

Regarding the association between depressive symptoms and mindful parenting, including Self-Regulation in Parenting and Non-Judgmental Acceptance of Parenting Functioning, it was not direct but mediated by parenting stress. It seems that experiencing depressive symptoms only exerts a role on mindful parenting, because it is associated with increased levels of parenting stress. In fact, while experiencing high anxiety symptoms may make parents more reactive and, therefore, less able to regulate their emotions and behaviors in their relationship with the baby and be compassionate towards themselves as parents, experiencing symptoms of depression may have another effect on mothers. Our results suggest that it is not because they feel more depressed that mothers are automatically less able to adopt a mindful approach to parenting. For

this to happen, that is, for depression to play a role in parenting, mothers must experience higher levels of parenting stress, which, in turn, seem to play a detrimental role on mindful parenting. In fact, mothers who experience depressive symptoms tend to experience more negative affect and to interpret parenting situations in a more negative way (Campbell et al., 2008). Therefore, they may find their infants more demanding and they may experience more parenting stress than mothers who do not experience depressive symptomatology (Leigh & Milgrom, 2008; Milgrom et al., 2004). This could lead them less able to regulate their emotions, less sensitive and responsive in mother-infant relationship (Field, 2010). Similarly, that experience of parenting stress by mothers with depressive symptoms could lead them less able to cope with demanding in their mother's role and potentiate a sense of incompetence (Thomason et al., 2014) making them feel more critical and judgmental of their parenting ability instead of adopting an accepting mindful approach in parenting situations and a compassionate stance towards themselves as parents.

Infant Temperament and Mindful Parenting Dimensions

Regarding infant temperament, we found that perceiving the infant temperament as more difficult was indirectly associated with lower levels of all dimensions of mindful parenting through higher levels of parenting stress. In addition to the indirect associations, we also found that infant temperament was directly associated with the dimension Emotional Awareness of the Child. We hypothesize that a negative perception of the infant's temperament most likely leads to a more negative view of the infant's traits, attributes and behaviors (Duncan et al., 2009) and a greater focus on the negative aspects of the baby (e.g., fussing and crying). In addition, mothers of more difficult babies can direct their attention on meeting the baby's immediate needs (e.g., feeding, comfort) so that the baby can regulate more quickly. If mothers' attention is occupied with infants' needs and how to address them, less awareness is available for infants' emotions and for synchronizing and attuning with them. In fact, some studies have shown that mothers of fussier babies were less responsive (Denham & Moser, 1994), and the negative emotionality of infants was negatively related to mother-child synchrony (Feldman, 2003; Feldman et al., 1999) compared to mothers of babies with an easier temperament. According to Leclère et al. (2014), synchrony encompasses both the mother's and the child's responsivity and their emotional capacity to respond to each other. If that capacity is compromised, mothers will likely be less able to be aware of their child's emotions or to engage in a mindful style of parenting.

In contrast, the relationship between a negative perception of infant temperament and the other dimensions of mindful parenting seems to exist through the experience of parenting stress. Parents with a negative perception of infant temperament may have a harder time understanding and responding to the baby's needs, nevertheless it is that association with their reduced sense

of competence in their parent role (McBride et al., 2002; Oddi et al., 2013) and the excessive attentional focus on competing demands (Wahler & Dumas, 1989) that may bring difficulty in focus full attention to the baby and be aware of the present moment in parent-child interactions (Listening with Full Attention) (Gouveia et al., 2019). Besides that, the sense of lack of competence to deal with infant-related demands, characteristics of parenting stress, brings more easily self-judgement for being non-competent, make it more difficult to accept the experience and challenges inherent in parenting (Non-Judgmental Acceptance of Parental Functioning) and to engage in a kind, sensitive and responsive attitude to the child's needs (Compassion for the Child). Furthermore, in addition to the negative perception of infant temperament, when parents feel overwhelmed with demands and difficulties that arise within the baby, may become reactive and automatically show hostility or negative effect, which hinders their ability to stop before acting according to their values and goals, and therefore exerting self-regulation in parent-child interactions (Self- Regulation in Parenting).

Limitations and Future Research Directions

This study has some limitations that should be mentioned. First, this is a cross-sectional study, and therefore, causal relationships cannot be inferred. Given the cross-sectional design of this study, it is also possible that higher levels of mindful parenting leads to lower levels of parenting stress and of anxious and depressive symptoms and to a more positive perception of the baby's temperament. Parents who are usually more mindful in the relationship with their baby may feel better able to cope with all the challenges that postpartum parenting entails (Potharst et al., 2017). By bringing mindful awareness into interactions with the baby, parents may feel calmer and less disturbed or stressed even when they encounter more challenging parenting situations. The non-judgmental and present-centered awareness that characterizes mindful parenting can support parents in becoming aware of increasing levels of stress, helping them making more conscious decisions instead of having impulsive reactions that are driven by stress (e.g., Zeegers et al., 2019). In addition, when mothers have their awareness more present-centered, it is more likely that they are able to create more distance of negative and ruminative thoughts, which may help them interpreting challenging parenting situations with more openness and acceptance. That is, mothers who are more mindful and better in self-regulating their emotions in parenting situations can also be more likely to experience lower levels of anxious or depressive symptomatology (Potharst et al., 2017; van den Heuvel et al., 2015). Moreover, by focusing their attention in present mother-child interactions, mothers may be more able to effectively read the baby's cues and may feel more capable of responding to the baby's needs. In addition, they may become more open and accepting of infant's behavior and more able to

understand them in a non-judgmental way, which can lead mothers to perceive their babies' temperament as easier (Bush et al., 2017; van den Heuvel et al., 2015). Future longitudinal studies are needed to better understand the directionality and associations between the variables explored in the current study.

Second, the sample was collected online, which could lead to self-selection bias, since people who participated in this study were likely to be more motivated and interested in the subject than people in the general population. Third, the sample was entirely composed of mothers, which limits the generalization of these results to fathers. Fourth, most of the mothers in this study were married or living with a partner, had completed higher education, and lived in urban areas, which may compromise the generalization of the results to mothers with different sociodemographic characteristics. Fifth, only self-reported instruments were used to assess study variables, which could compromise the results, since self-report instruments can be influenced by social desirability. In addition, the mothers' perception of infant temperament was assessed by a single subjective and self-reported item, which could limit the conclusions that can be made about infant temperament. Nevertheless, it is important to note that some authors have suggested that parent reports are the most utilized method for assessing infant temperament (Stifter & Wiggins, 2004).

Despite these limitations, this study provides a novel contribution to the study of mindful parenting in research in the applied context of the postpartum period. In addition, this study also highlights for some directions for clinical practice. In the postpartum period, a sensitive time for the development of the relationship between the parents and the child (Johansson et al., 2017), it is important to identify mothers who present higher levels of anxious and depressive symptomatology and/or parenting stress and who perceive their infant temperament as difficult. This study emphasizes the need to screen for anxious and depressive symptoms and parenting stress and to evaluate mothers' perception of their infant temperament in health care services and to refer mothers who could benefit from psychological care. Mindful parenting training, particularly the training that is specifically adapted for parents of infants (Mindful with Your Baby Training; Potharst et al., 2017), could be an effective way to help mothers who are experiencing higher levels of anxious and depressive symptomatology, parenting stress, or difficulties in their relationship with their baby (for instance, due to difficult temperament) to develop mindful parenting skills and to reduce symptoms of anxiety and depression and parenting stress (Potharst et al., 2017). To conclude, the present study suggest evidence to the scarce existing literature aimed at understanding the mechanisms underlying the association between psychopathological symptoms and perception of infant temperament and mindful parenting outcomes, namely parenting stress. However, other variables can also play important roles in these associations, and

therefore, further studies are necessary to continue to explore how to improve the mother's ability to be sensitive and responsive to their child, especially by reducing parenting stress and maternal anxious and depressive symptomatology and by promoting a more positive perception of their infant temperament.

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Compliance with Ethical Standards

Ethical Approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The Ethics Committee of the Faculty of Psychology and Educational Sciences of the University of Coimbra approved the study.

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Estudo Empírico II

Postpartum during COVID-19 pandemic: Portuguese mothers' mental health, mindful parenting and mother-infant bonding

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Postpartum during COVID-19 pandemic: Portuguese mothers' mental health, mindful parenting and mother-infant bonding

Abstract

Background: Millions of people worldwide have been diagnosed with COVID-19, which has impacted maternal mental health and mother-infant relationships during the postpartum period. **Objectives:** To explore how mothers' anxious and depressive symptoms, parenting stress, mindful parenting, and mother-infant bonding vary as a function of the moment of the baby's birth (pre-COVID-19 or post-COVID-19) and to examine the contribution of those variables to mother-infant bonding. **Methods:** The sample was recruited online and comprises 567 mothers (18-46 years) with an infant aged between zero and 12 months old. **Results:** Approximately 27.5% of the mothers presented clinically significant levels of anxious and depressive symptoms. Mothers who gave birth during the COVID-19 pandemic presented lower levels of Emotional Awareness of the Child and a more impaired mother-infant bonding than mothers who gave birth before the pandemic started. Approximately 49% of the mother-infant bonding variance was explained by parenting stress and by several dimensions of mindful parenting. **Conclusion:** Our findings provide important insights into the impact of COVID-19 on maternal mental health and parenting.

Keywords: COVID-19; Mental health; Mindful parenting; Mother-infant bonding; Postpartum

Introduction

Since December 2019, a novel coronavirus (severe acute respiratory syndrome coronavirus 2), which causes coronavirus disease 2019 (COVID-19), has infected millions of people worldwide. On March 11, 2020, the World Health Organization (WHO) declared COVID-19 a pandemic. Given its high level of transmission between humans, it was necessary to adopt measures to contain the spread of the disease. In Portugal, a State of National Emergency was declared on March 18 that resulted in a national lockdown, home confinement, telework, and temporary closure of nonessential businesses and schools (Directorate-General of Health [DGS], 2020a).

The COVID-19 pandemic has affected people's lives at different levels, beginning in the first hours and days after birth (Stuebe, 2020), which makes postpartum mothers a particularly vulnerable group (Thapa et al., 2020). In Portugal, as in the rest of the world, several adaptations to postpartum care have been made to better deal with pandemic demands. When mothers did not have suspicion or confirmation of COVID-19 infection, the birth must take place in the usual way, with the reinforcement of infection prevention and control measures, which extend to the postpartum period. When mothers were suspected or confirmed to have COVID-19, infection prevention and control measures should also be adopted, but there were no well-defined guidelines about mother-infant contact after birth (DGS, 2020a). The inconsistent guidance and ethical challenges for clinical teams trying to balance parental rights with the mitigation of risks to the infant resulted in practice variation and may have contributed to higher levels of stress for mothers and families (Teti et al., 2020).

Postpartum mothers may have concerns regarding their own health and risk of infection, as well as regarding the health of their infants and loved ones (Matvienko-Sikar et al., 2020). These concerns were particularly intensified by preventive measures, such as quarantine, physical distancing, home isolation, remote consultations with healthcare professionals, and the impossibility of obtaining the expected level of support and care during the postpartum period (Thapa et al., 2020). Therefore, this pandemic context during the postpartum period seems to have potentiated mental health difficulties, leading to the development of anxious and depressive symptoms (Davenport et al., 2020) and parenting stress (Coyne et al., 2020) in mothers. Recently, a few studies have shown the negative impact of COVID-19 and quarantine measures on maternal mental health and mother-infant relationships. For instance, a study conducted with postpartum mothers showed that mothers who gave birth during a period of COVID-19 quarantine presented higher levels of depressive symptoms than mothers in a control group who gave birth during the same period the previous year (Zanardo et al., 2020). Likewise, a study that compared the results

of mental screening of postpartum mothers during the COVID-19 pandemic and mothers during the same period last year concluded that mother-infant bonding was worse one month after birth among mothers who gave birth during the COVID-19 pandemic (Suzuki, 2020).

Although there is some evidence that the COVID-19 pandemic has a negative impact on maternal mental health, its impact on parenting behaviors and on the mother-infant relationship during the postpartum period was scarcely investigated. Extensive research suggests that maternal mental health problems are associated with short- and long-term risks for the mother-infant relationship, particularly for the establishment of mother-infant bonding [the emotional connectedness between mothers and infants; Nolvi et al. (2016)] (e.g., Fallon et al., 2019). For instance, a study conducted by Tolja et al. (2020) showed that during the postpartum period, anxious and depressive symptoms were associated with poorer mother-infant bonding. Similarly, a study conducted by Reck et al. (2016) showed that higher levels of parenting stress were associated with lower levels of mother-infant bonding. Moreover, other studies have also suggested that mental health problems, such as anxious and depressive symptoms and parenting stress, may make it more difficult for mothers to adopt a positive and mindful parenting approach (Fernandes et al., 2021).

Mindful parenting can be defined as a more accepting, emotionally attuned, and compassionate way of parenting (Coatsworth et al., 2018). It is characterized by parenting practices that promote responsive and sensitive care to the child's needs (Medeiros et al., 2016), through the promotion of mindful parenting skills, such as *listening with full attention to the child*, *emotional awareness of the child*, *self-regulation in the parenting relationship*, *a non-judgmental acceptance of parental functioning* and *compassion for the child* (e.g., Moreira & Canavarro, 2017). Several studies conducted with parents of children and adolescents have shown that maternal psychopathological symptoms, as well as parenting stress, are associated with lower levels of mindful parenting (e.g., Moreira et al., 2019). Although the scarcity of research during the postpartum period, a few studies have shown that mindful parenting training may reduce mothers' psychopathological symptoms and may promote a more positive mother-infant relationship through the promotion of mindful parenting skills (e.g., Potharst et al., 2017).

To our knowledge, no studies have focused on maternal mental health, parenting styles and behaviors or the mother-infant relationship of postpartum mothers during the COVID-19 pandemic. Therefore, the present study aimed (i) to explore if mothers' mental health (anxious symptoms, depressive symptoms, and parenting stress), mindful parenting, and mother-infant bonding vary as a function of the moment of the baby's birth (before the pandemic – pre-COVID-19 group or during the pandemic – post-COVID-19 group); and (ii) to examine the contribution of COVID-19-related variables, maternal mental health, and mindful parenting to the explanation of

the mother-infant bonding variance.

Methods

Participants

The sample included 567 Portuguese mothers of babies aged between zero and 12 months. Most mothers were living in a nuclear family type (i.e., a family with two parents and their children) and had completed higher education. About 414 mothers (73%) gave birth before the pandemic (pre-COVID-19 group) and 153 mothers (27%) gave birth during the pandemic (post-COVID-19 group). The complete sociodemographic and clinical information, according the two groups of the mothers and their babies are presented in Table 1.

Table 1

Sociodemographic and Clinical Information of the Sample

	Pre-COVID-19 group (*n* = 414)	Post-COVID-19 group (*n* = 153)	Comparison analyses	
			t/χ^2	*d*/Cramer's *V*
Mothers' age (years) *M* (*SD*); range	32.95 (4.85); 19-46	33.02 (5.61); 18-45	-0.13	.010
Mothers' marital status n (%)			7.08*	.112
Living with a partner	356 (86%)	144 (94.1%)		
Not living with a partner	58 (14%)	9 (5.9%)		
Mothers' type of family n (%)			3.98	.084
Single parent	16 (3.9%)	2 (1.3%)		
Nuclear	318 (76.8%)	126 (82.4%)		
Reconstituted	3 (0.7%)	2 (1.3%)		
Extended	77 (18.6%)	23 (15%)		
Mothers' education n (%)			0.64	.034
Basic or secondary education	186 (44.9%)	63 (41.2%)		
Higher education	228 (55.1%)	90 (58.8%)		
Mothers' current employment status n (%)	*Missing*: 8		153.69***	.524
Working in the workplace	53 (13.1%)	-		
Working from home	49 (12.1%)	-		
Not working, helping children after closure of schools	37 (9.1%)	1 (0.7%)		
Laid off	34 (8.4%)	-		
Unemployed, housewives, full-time mothers, students	72 (17.7%)	2 (1.3%)		

Maternity leave	161 (39.7%)	150 (98%)		
Mothers' household monthly income n (%)			4.99*	.094
Less than 2000€	329 (79.5%)	108 (70.6%)		
2000€ or above	85 (20.5%)	45 (29.4%)		
Mothers' area of residence n (%)			0.61	.033
Urban	278 (67.1%)	108 (70.6%)		
Rural	136 (32.9%)	45 (29.4%)		
Babies' age (months) *M* (*SD*); range	6.23 (2.81); 2-12	1.34 (0.75); 0-4	21.22***	2.38
Babies' Sex n (%)			0.40	.027
Girls	218 (52.7%)	76 (49.7%)		
Boys	196 (47.3%)	77 (50.3%)		
Mothers' parity n (%)			1.71	.055
Primiparous	263 (63.5%)	88 (57.5%)		
Multiparous	151 (36.5%)	65 (42.5%)		
Mothers' current psychological and/or psychiatric problem n (%)			0.03	.007
Yes	26 (6.3%)	9 (5.9%)		
No	388 (93.7%)	144 (94.1%)		
Mothers' current psychological treatment n (%)			2.49	.066
Yes	28 (6.8%)	5 (3.3%)		
No	386 (93.2%)	148 (96.7%)		

The COVID-19-related information is presented as a function of the moment of the baby's birth (i.e., pre- or post-COVID-19) in Table 2.

Table 2

COVID-19-related Information as a Function of the Moment of the Baby's Birth

	Pre-COVID-19 group (*n* = 414)	Post-COVID-19 group (*n* = 153)	Comparison analyses	
			χ^2	Cramer's *V*
COVID-19-related information				
Accompaniment during birth n (%)			100.12***	.420
Yes	358 (86.5%)	70 (45.8%)		
No	56 (13.5%)	83 (54.2%)		
To be with the baby after birth n (%)			0.13	.015
Yes	392 (94.7%)	146 (95.4%)		
No	22 (5.3%)	7 (4.6%)		
Adoption of extra measures in mother-infant's interaction n (%)			102.99***┼	.426

Yes (e.g., use of masks, no breastfeeding, no visits)	3 (0.7%)	40 (26.1%)		
No	411 (99.3%)	113 (73.9%)		
Increased perceived postpartum difficulties			5.41*	.098
Yes	198 (47.8%)	90 (58.8%)		
No	216 (52.2%)	63 (41.2%)		
Increased concerns about the baby's care			0.24	.020
Yes	348 (84.1%)	126 (82.4%)		
No	66 (15.9%)	27 (17.6%)		

Note. Abbreviation: COVID-19, coronavirus disease 2019.

*$p < .05$; **$p < .01$; ***$p < .001$; † *Fisher's exact test*

Procedure

The participants were recruited online, between April 30, 2020 and May 21, 2020, which corresponds to a period of major restrictions in Portugal (State of National Emergency and the first phase of the plan for lifting lockdown measures). The sample was recruited through a data collection website (LimeSurvey®). The study was shared through e-mail, unpaid cross-posting, and paid boosting campaigns. Several advertisements were posted on a Facebook page about parenting and mental health that was previously created by the research team, as well as on social networks. The advertisements explained the main goals of the study and presented the inclusion criteria and a web link to the survey hosted in LimeSurvey®. The participants who clicked on the link were then given information about the study, namely, a description of the objectives, the inclusion criteria, and the ethical statement of the study. The participants were informed that their participation was voluntary and anonymous, and that no identifying information would be collected. Only those who agreed to the study conditions and who provided their informed consent completed the assessment protocol. No compensation was given to participants. The participants were eligible to participate in the study if they fulfilled the following inclusion criteria: (i) being Portuguese; (ii) being over 18 years old; and (iii) having at least one child between zero and 12 months old.

This study refers to the first moment of assessment of a longitudinal study conducted to examine the impact of the COVID-19 pandemic on maternal mental health, mindful parenting, and mother-infant bonding during the postpartum period. Of the 917 participants who completed at least one questionnaire in the first assessment moment, 20 mothers were excluded because of their nationality (they were not Portuguese), 295 mothers were excluded because one or more of the study questionnaires were not completed, seven mothers were excluded because their babies were more than 12 months old, and 28 men were excluded due to their low representation in the survey.

Measures

Sociodemographic, Clinical and COVID-19-related Information

A self-reported questionnaire was specifically developed for this study by the research team to assess sociodemographic (e.g., participants' age), clinical (e.g., current psychological and/or psychiatric problem) and COVID-19-related information of mothers. To assess COVID-19-related information, questions were developed based on DGS national guidelines (DGS, 2020a, 2020b). Participants answered the following questions: 1) the moment of the baby's birth ("Was your baby born during the current pandemic?" [yes or no]); 2) if the mother was accompanied during birth ("Were you accompanied during birth?" [yes or no]); 3) if mother was able to be with the baby after birth ("Were you with your baby after birth?" [yes or no]); 4) the adoption of extra measures (e.g., use of masks, no breastfeeding, no visits) in the mother-infant interaction in the immediate postpartum period ("Were extra measures adopted in regard to the mother-infant interaction in the immediate postpartum period?" [yes or no]); 5) if the mother perceived increased postpartum difficulties due the state of emergency implementation ("Do you perceive more postpartum difficulties (e.g., difficulties in your marital relationship, difficulties in familiar relationships, difficulties in providing baby's care, difficulties dealing with emotions) due the implementation of the state of emergency?" [yes or no]); and 6) if the mother felt increased concerns about the baby's care due the state of emergency ("Do you feel more concern about the baby's care due the implementation of the state of emergency?" [yes or no]).

Anxious and Depressive Symptomatology

The Portuguese version of the Hospital Anxiety and Depression Scale (HADS; Pais-Ribeiro et al., 2007) was used to assess levels of anxious and depressive symptomatology in the previous week. This questionnaire contains 14 items (e.g., "I feel tense or wound up"; "I still enjoy the things I used to enjoy") distributed to assess two factors (anxiety and depression) and uses a 4-point response scale, ranging from 0 (not at all/only occasionally) to 3 (most of the time/a great deal of the time). The factor scores are the sum of the items, with higher scores indicating higher levels of symptomatology. Scores between 0 and 7 are considered "normal"; between 8 and 10, "mild"; between 11 and 14, "moderate"; and between 15 and 21, "severe". According to Snaith (2003), scores of 11 or higher indicate the possible presence (i.e., "caseness") of a mood disorder. The Portuguese version of HADS has robust psychometric properties, including adequate reliability and construct validity (Pais-Ribeiro et al., 2007). In this sample, Cronbach's alpha coefficients were .85 for anxiety ($M_{\text{(no disease)}}$ = 7.81) and .80 for depression ($M_{\text{(no disease)}}$ = 3.22).

Parenting Stress

The Portuguese version of the Parental Stress Scale (PSS; Mixão et al., 2010) was used to assess parenting stress. The questionnaire has 18 items (e.g., "Caring for my child(ren) sometimes

takes more time and energy than I have to give") answered on a 5-point response scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The total score is calculated as the sum of the items, with higher scores indicating higher parenting stress. The Portuguese version of PSS presents adequate psychometric properties, including adequate reliability and construct validity (Mixão et al., 2010). In this sample, Cronbach's alpha coefficient was .85 (*M* = 31.76; *SD* = 6.74).

Mindful Parenting

To assess mindful parenting, the Portuguese Interpersonal Mindfulness in Parenting Scale (IM-P - Infant version; Caiado et al., 2020) was used. The IM-P- Infant version contains 28 items scored on a 5-point response scale, ranging from 1 (never true) to 5 (always true). The items are distributed across five subscales: (1) Listening with Full Attention (LFA) (e.g., "I find myself paying little attention to my baby because I am busy doing or thinking about something else at the same time"; (2) Emotional Awareness of the Child (EAC) (e.g., "It is hard for me tell what my baby is feeling"); (3) Self-Regulation in Parenting (SR) (e.g., "If I am upset with my baby, I notice how I am feeling before I take action"); (4) Non-Judgmental Acceptance of Parental Functioning (NJAPF) (e.g., "I tend to criticize myself for not being the kind of parent I want to be"); and (5) Compassion for the Child (CC) (e.g., "I am kind to my baby when he/she is tearful, restless or upset with something"). The subscale scores are the sum of the items, and higher scores indicate higher levels of the mindful parenting dimensions. The Portuguese version of IM-P - Infant version has shown construct validity and reliability (Caiado et al., 2020). In this sample, Cronbach's alpha coefficients were .84 for the total scale (*M* = 116.34; *SD* = 12.75), .86 for LFA (*M* = 20.81; *SD* = 3.01), .67 for EAC (*M* =11.48; *SD* = 1.94), .64 for SR (*M* = 30.18; *SD* = 4.57), .78 for NJAPF (*M* = 24.67; *SD* = 4.90), and .76 for CC (*M* = 22.12; *SD* = 2.36).

Mother-Infant Bonding

To assess mother-infant bonding, the Portuguese version of Postpartum Bonding Questionnaire (PBQ; Nazaré et al., 2012) was used. The PBQ is a self-report questionnaire designed to provide an early indication of mother–infant bonding disorders. It has 12 items (e.g., "I feel close to my baby") to be rated on a 5-point response scale, between 0 (never) and 5 (always). The Portuguese version of PBQ has shown good construct, convergent and discriminant validity (Nazaré et al., 2012). The total score is calculated as the sum of the items, with higher scores indicating a more impaired mother-infant bonding. In the present sample, the Cronbach's alpha coefficient was .74 (*M* = 3.70; *SD* = 3.58).

Data Analyses

Data analyses were conducted using the Statistical Package for the Social Sciences (IBM SPSS, version 25.0). Descriptive statistics were computed for all sociodemographic and study

variables. To compare groups [i.e., pre- or post-COVID-19 group]) on several variables, we used chi-squared tests (to compare categorical variables) and *t* tests (to compare continuous variables). Fisher's exact test was reported when the frequencies in each cell was lower than five. Cohen's *d* (small: $d \geq .20$; medium: $d \geq .50$; large: $d \geq .80$) and Cramer's *V* were used as effect-size measures.

First, differences in anxious symptoms, depressive symptoms, parenting stress, mindful parenting dimensions and mother-infant bonding were analyzed as a function of the moment of the baby's birth (i.e., pre- or post-COVID-19 group) through *t*-tests. Second, point-biserial correlations (for categorial variables) and Pearson correlations (for continuous variables) were computed. In order to analyze the contribution of COVID-19-related variables, maternal mental health, and mindful parenting dimensions to the explanation of the mother-infant bonding variance, hierarchical multiple regression analyses (enter method) were performed. Prior to conducting the hierarchical multiple regression, the relevant assumptions were verified through both the tolerance and Variance Inflation Factor (VIF) statistics and Durbin-Watson test. The effect sizes of the main effects were based on R^2 values (small effects: $R^2 \geq .02$; medium effects: $R^2 \geq .13$; and large effects: $R^2 \geq .26$) (Cohen, 1988). For all the described analyses, a *p*-value of .05 was set as the significance cut-off point.

Results

Maternal Mental Health, Mindful Parenting and Mother-Infant Bonding: Comparative Analyses as a Function of the Moment of the Baby's Birth

Most mothers reported normal or mild levels of anxious and/or depressive symptomatology ($n = 411$, 72.5%) and 27.5% ($n = 156$) reported clinically significant levels of those symptoms (i.e., scored ≥ 11 on one or both of the HADS subscales).

As presented in Table 3, mothers whose baby was born during the pandemic (post-COVID-19 group) presented lower levels of Emotional Awareness of Child and a more impaired bonding with the infant than those whose baby was born before the pandemic (pre-COVID-19 group).

Correlations between Variables

Before proceeding to the hierarchical regression, point-biserial correlations and Pearson correlations between study variables and mother-infant bonding were analyzed. Impaired mother-infant bonding was positively and significantly associated with more perceived postpartum difficulties due to the implementation of the state of emergency (0 = no; 1 = yes; $r_{pb} = .14$, $p < .001$) and the moment of the baby's birth (0 = pre-COVID-19; 1 = post-COVID-19; r_{pb} =

.09, p < .005). Moreover, impaired mother-infant bonding was positively and significantly associated with anxious symptoms (r = .28, p < .001), depressive symptoms (r = .36, p < .001), parenting stress (r = .66, p < .001), and negatively and significantly with all dimensions of mindful parenting, namely, Listening With Full Attention (r = -.48, p < .001), Emotional Awareness of the Child (r = -.38, p < .001), Self-Regulation in Parenting (r = -.48, p < .001), Non-Judgmental Acceptance of Parental Functioning (r = -.36, p < .001), and Compassion for the Child (r = -.55, p < .001).

Table 3

Comparative Analyses of Mothers' Mental Health, Mindful Parenting and Bonding as a Function of the Moment of the Baby's Birth

	Pre-COVID-19 group (n = 414) M (SD)	Post-COVID-19 group (n = 153) M (SD)	Comparison analyses		
			t	p	d
Anxious symptoms	7.83 (4.22)	7.10 (3.97)	1.85	.064	.18
Depressive symptoms	6.03 (3.86)	5.50 (3.76)	1.45	.148	.14
Parenting stress	35.96 (8.38)	37.40 (9.03)	-1.77	.076	.17
Listening with Full Attention	21.10 (2.93)	21.20 (3.19)	-0.34	.733	.03
Emotional Awareness of the Child	11.83 (1.94)	11.05 (2.06)	4.18	< .001	.39
Self-Regulation in Parenting	30.76 (4.13)	30.67 (4.00)	0.23	.821	.02
Non-Judgmental Acceptance of Parental Functioning	24.40 (4.82)	24.07 (5.23)	0.71	.481	.07
Compassion for the Child	22.36 (2.26)	22.05 (2.61)	1.42	.156	.13
Mother-infant bonding	4.13 (3.51)	4.88 (4.36)	-2.13	.034	.19

Note: Abbreviation: COVID-19, coronavirus disease 2019.

The Contributions of COVID-19-related Information, Maternal Mental Health and Mindful Parenting to the Explanation of Mother-Infant Bonding

Table 4 presents the regression model predicting mother-infant bonding. First, step 1 of the hierarchical multiple regression, which included the COVID-19-related information that was significantly correlated with mother-infant bonding (increased perceived postpartum difficulties due to the state of emergency and the moment of the baby's birth), was significant and accounted for 2.4% of the variance in mother-infant bonding ($F_{(2,564)}$ = 6.94, p = .001). In this step, only increased perceived postpartum difficulties were associated with a more impaired mother-infant bonding (β = .13, p = .001). Second, step 2, in which maternal mental health variables were entered, was significant and accounted for 43.3% of the variance in mother-infant bonding ($F_{(5,561)}$

= 85.62, $p < .001$). The results showed a significant regression coefficient for parenting stress (β = .66, $p < .001$), suggesting that higher levels of parenting stress were associated with a more impaired mother-infant bonding. Finally, step 3, in which mindful parenting dimensions were entered, was significant and accounted for 49.2% of the variance in mother-infant bonding ($F_{(10,561)}$ = 53.95, $p < .001$). The results showed significant regression coefficients for parenting stress (β = .49, $p < .001$), Listening with Full Attention (β = -.11, $p = .006$), Self-Regulation in Parenting (β = -.13, $p = .002$), and Compassion for the Child (β = -.09, $p = .039$), suggesting that higher levels of parenting stress and lower levels of these mindful parenting dimensions were associated with a more impaired mother-infant bonding (see Table 4).

Table 4

Hierarchical Multiple Regression of Mother-Infant Bonding Regarding COVID-19-Related Information, Maternal Mental Health and Mindful Parenting

	Mother-infant bonding			
Step and predictor variables	*b*	*SE b*	Std. β	*p*
Step 1 – COVID-19-related Information	R^2 = .024 | $F_{(2,564)}$ = 6.94, p = .001			
Constant	3.67	.24	-	.000
Increased perceived postpartum difficulties	.96	.32	.13	.002
Moment of the baby's birth	.65	.36	.08	.067
Step 2 – Maternal Mental Health	R^2 = .433 | $F_{(5,561)}$ = 85.62, $p < .001$			
Constant	-6.12	.54	-	.000
Increased perceived postpartum difficulties	-.07	.26	-.01	.791
Moment of the baby's birth	.33	.28	.04	.230
Anxious symptoms	-.04	.04	-.05	.300
Depressive symptoms	.03	.05	.03	.526
Parenting stress	.29	.02	.66	< .001
Step 3 – Mindful Parenting	R^2 = .492 | $F_{(10,556)}$ = 53.95, $p < .001$			
Constant	7.64	1.92	-	.000
Increased perceived postpartum difficulties	-.01	.25	-.00	.956
Moment of the baby's birth	.29	.27	.03	.284
Anxious symptoms	-.05	.04	-.06	.204
Depressive symptoms	.03	.05	.03	.525
Parenting stress	.21	.02	.49	< .001
Listening with Full Attention	-.13	.05	-.11	.006
Emotional Awareness of the Child	-.13	.07	-.07	.063
Self-Regulation in Parenting	-.12	.04	-.13	.002
Non-Judgmental Acceptance of Parental Functioning	-.00	.03	-.01	.909
Compassion for the Child	-.14	.07	-.09	.039

Note: Abbreviation: COVID-19, coronavirus disease 2019.

Discussion

In the present study, 27.5% of mothers presented clinically significant anxious and depressive symptomatology levels. This result is in accordance with other studies, showing the adverse effect of the COVID-19 pandemic on maternal mental health during the postpartum period (e.g., Ceulemans et al., 2020) and an increase in maternal anxiety and depression in comparison to the levels in the period before the COVID-19 pandemic. For instance, in a study conducted among Portuguese mothers in the pre-COVID-19 period, 22.1% of postpartum mothers presented clinically significant anxious and depressive symptoms (e.g., Fernandes et al., 2021).

Significant differences were found in mindful parenting and in the mother-infant bonding as a function of the moment of baby's birth. Specifically, mothers who gave birth during the pandemic presented lower levels of Emotional Awareness of the Child and a more impaired bonding with their infant than those who gave birth before the pandemic. In fact, it is possible that mindful parenting is responsive to contextual factors, as a pandemic context, and shows considerable stability over time (Coatsworth et al., 2018). This may potentially explain why mothers who gave birth before or during the pandemic context presented similar results in several dimensions of mindful parenting. However, Emotional Awareness of the Child seems to be lower in mothers who gave birth during the pandemic context. During this period, mothers may have been more focused on fear and danger about the new unknown disease and its consequences (Centers for Disease Control and Prevention, 2020), and this may led them less able to decenter from their own emotions and focus their attention on the baby's emotions, specifically. Also, babies who were born during the pandemic are significantly younger than those who were born before the pandemic. This may specifically difficult mothers' ability to recognize and identify baby's emotions, given the most challenging character of the first months of the postpartum period (Kristensen et al., 2018) as well as the shorter time they have had interacting with their babies, than mothers who gave birth before the pandemic. Moreover, the pandemic context may have brought a sense of feeling deceived of the joys of maternity and a sense of feeling robbed of the little pleasures of the perinatal period, accompanied by a sense of guilt and loss (Das, 2020) which may have had a negative effect on mother's availability to emotionally bond with their infant.

This study also identified several predictors of mother-infant bonding, suggesting that higher levels of parenting stress and lower levels of some mindful parenting dimensions (Listening with Full Attention, Self-Regulation in Parenting, and Compassion for the Child) were associated with a more impaired mother-infant bonding. Those variables seem to be more important in

explaining bonding than psychopathological symptoms and contextual variables, such as COVID-19-related information. Previous research has shown that mothers who presented higher levels of parenting stress tend to react automatically in parenting situations (Bögels & Restifo, 2014), and their threat system may be activated more often (Siegel & Hartzell, 2013). This may leave parents more reactive and less sensitive and warm during mother-infant interactions and thus result in a more impaired emotional bond with the infant. Furthermore, our results are consistent with other studies which showed that mindful parenting helps parents become more attentive toward their children, be aware of what they communicate (Potharst et al., 2019) and be fully present during interactions (Duncan et al., 2009). Therefore, this may have repercussions on parents' emotional availability (Potharst et al., 2019) and consequently on mother-infant bonding. Likewise, mindful parenting allows parents to become aware of their parenting stress, accept the situation and feelings, and regulate them (Potharst et al., 2019). Studies have shown that the mother's ability to contain her own internal experience allows for a more attuned response to the infant, therefore promoting mother-infant bonding (e.g., Pickard et al., 2017). In the same way, when mothers are kind, sensitive and responsive to the infant's needs, they have their soothing system stimulated (Cree, 2010), and they may be more available to give to the baby love and attention that will facilitate the establishment of mother-infant bonding (Wada et al., 2020).

Limitations and Future Research Directions

This study has some limitations that should be mentioned. First, this was a cross-sectional study, and therefore, causal relationships cannot be inferred. Future longitudinal studies are needed to better understand the directionality and associations between the variables explored in the current study. Second, the sample was collected online, which could lead to self-selection bias since people who participated in this study were likely to be more motivated and interested in the subject than those in the general population. Third, only self-report measures were used, which can compromise the validity of the results once participants may be influenced by social desirability and not reliably report their inner states. Forth, the sample was entirely composed of mothers, which limits the generalization of these results to fathers. Fifth, most of the mothers in this study were married or living with a partner, had completed higher education, and lived in urban areas, which may compromise the generalization of the results to mothers with different sociodemographic characteristics. Future studies should use a sample with more sociodemographic diversity.

Despite these limitations, this study provides innovative knowledge by suggesting that mother-infant bonding can be explained by parenting stress and several dimensions of mindful parenting. These results emphasize the need to identify mothers who present a higher risk of

developing parenting stress, for instance, by screening these symptoms in healthcare settings and referring mothers who could benefit from psychological care (Yanyu et al., 2020). In addition, understanding the variables that may contribute to mother-infant bonding, during the postpartum period, may be useful in informing future psychological interventions in this context. An intervention that could help mothers to manage parenting stress and to promote mindful parenting skills might be especially useful to promote mother-infant bonding during the postpartum period (e.g., Potharst et al., 2019). In a pandemic context, internet-based screening tools and web-based psychological support and therapeutic interventions may be particularly relevant (Thapa et al., 2020). Future clinical studies should further explore this possibility and are needed to understand how to promote mother-infant bonding, during the postpartum period.

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Compliance with Ethical Standards:

Ethical Approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The Ethics Committee of the Faculty of Psychology and Educational Sciences of the University of Coimbra approved the study.

Informed Consent: Informed consent was obtained from all individual participants included in the study.

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Estudo Empírico III

The role of mothers' self-compassion on mother–infant bonding during the COVID-19 pandemic: A longitudinal study exploring the mediating role of mindful parenting and parenting stress in the postpartum period

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The role of mothers' self-compassion on mother-infant bonding during the COVID-19 pandemic: A longitudinal study exploring the mediating role of mindful parenting and parenting stress in the postpartum period

Abstract

The current COVID-19 pandemic is a challenging time for postpartum mothers, and associated challenges may have a negative impact on their parenting and, consequently, on mother-infant bonding. This study aimed to longitudinally explore whether mothers' self-compassion was associated with mother-infant bonding and whether this relationship was mediated by mindful parenting and parenting stress. A total of 125 Portuguese mothers of infants aged between zero and 12 months completed an online survey at two assessment points during the first wave of the COVID-19 pandemic (T1: April-May 2020; T2: June-July 2020). The survey included several questionnaires assessing sociodemographic, clinical, and COVID-19 information; self-compassion; mindful parenting; parenting stress; and mother-infant bonding. Mothers presented significantly higher levels of self-compassion, less impaired mother-infant bonding, and lower levels of depressive symptoms at T2 than T1. Higher levels of self-compassion at T1 predicted less impaired mother-infant bonding at T2, and this relationship was mediated by higher levels of mindful parenting and lower levels of parenting stress (both assessed at T1). These results highlight the relevance of mothers' self-compassion to establishing mother-infant bonding in the postpartum period, particularly during the COVID-19 pandemic, and the important role of mindful parenting and parenting stress in determining this relationship.

Keywords**:** COVID-19; Postpartum period; Self-compassion; Mother-infant bonding; Mindful parenting; Parenting stress

Key Findings and their Implications for Practice/Policy

Key Finding 1: In the current study, mothers presented significantly higher levels of self-compassion, less impaired mother-infant bonding and lower levels of depressive symptoms after lifting lockdown measures related to COVID-19 pandemic than at a period of major pandemic restrictions.

Key Finding 2: Self-compassion was significantly and positively correlated with mindful parenting and negatively correlated with a more impaired mother-infant bonding, parenting stress, anxious symptoms and depressive symptoms.

Key Finding 3: Mothers' self-compassion has an effect on mother-infant bonding through mindful parenting and parenting stress. It may be relevant to combine interventions aimed at promoting mothers' self-compassion that can contribute to promoting a mindful approach to parenting and, consequently, to reducing parenting stress so that mother-infant bonding can be promoted.

Statement of Relevance to the field of Infant and Early Childhood Mental Health

Associated challenges of the COVID-19 pandemic may have a negative impact on parenting and, consequently, on mother-infant bonding, particularly for postpartum mothers. Self-compassion is an inner psychological resource that can help parents feel less stress in parenting and adopt a mindful approach to parenting. The present study provides an innovative contribution to better understanding specific mechanisms (i.e., mindful parenting and parenting stress) through which mothers' self-compassion may exert an effect on mother-infant bonding.

Introduction

Although the postpartum period is usually characterized as a happy and joyous period, it is also a challenging time for mothers. Several psychological studies have considered the first year after the birth of a child as a crucial period to the mother's adjustment to their new role and infant-related tasks (e.g., Javadifar et al., 2016; Machado et al., 2020). Indeed, after the birth of a child, mothers face multiple physiological and psychological challenges, such as new responsibilities and routines associated with infant care, sleep deprivation and fatigue (Coates et al., 2014), that may have a negative impact on their psychological adjustment and parenting practices (King et al., 2020). Currently, in addition to common challenges of the postpartum period, mothers have to deal with a novel and unexpected pandemic (Werner et al., 2020).

At the end of December 2019, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a new and highly contagious virus that causes COVID-19 (coronavirus disease 2019), was detected. On March 11, the World Health Organization (WHO) declared the spread of the virus a pandemic (Kavakli et al., 2020). Since the transmission of COVID-19 occurs via close contact between persons and there was no treatment or cure for this disease, social distancing and strict quarantine and isolation measures were implemented by several nations worldwide to control the spread of the virus (Werner et al., 2020) and to alleviate the pressure on healthcare systems (Pakenham et al., 2020). In Portugal, different phases of pandemic-related restrictions were applied. A state of national emergency was declared on March 18 and lasted until May 2; it consisted of several restrictive measures, including a national lockdown characterized by home confinement and telework, limitations on people's movements (e.g., people were only allowed leave home for the acquisition of essential items and specific services), the temporary closure of schools and nonessential businesses (e.g., leisure and entertainment activities; restaurants and bars), and establishment of specific hygiene rules for institutions that were open (DGS, 2020c). After that period, the Portuguese government applied a three-phase plan for lifting lockdown measures, with restriction measures being reviewed every 15 days by the Government of the Portuguese Republic (GOV) (GOV, 2020b). Gradually, several activities were allowed, and less restrictive measures were implemented (e.g., nurseries, kindergartens, and preschools as well as cinemas and theatres opened, and telework was no longer required) (GOV, 2020a).

The profound changes caused by the COVID-19 pandemic and lockdown have influenced everyday lives and family routines around the world (Gambin et al., 2020). Parents, particularly those in the postpartum period, had to face unprecedented challenges. For instance, several delivery units restricted all visitors, including support persons and birthing partners, due to the

scarcity of personal protective equipment and rising incidence of asymptomatic cases of COVID-19 in obstetric patients (Werner et al., 2020). In addition, when mothers returned home, they might not have had adequate social support to care for the baby, such as family members or close friends, or external help with domestic tasks due to the restrictions that were implemented (Morgan, 2020). Therefore, having a child during this pandemic may have had a negative impact on mothers' psychological adjustment, as suggested by recent studies. For instance, Cameron et al. (2020) found that 33.16% and 36.27% of mothers of children aged between zero and 18 months presented clinically relevant symptoms of depression and anxiety, respectively, which are higher than nonpandemic rates of depression and anxiety (Cameron et al., 2020). Another study performed by Ahlers-Schmidt et al. (2020) found that 82.5% of pregnant and postpartum women reported changes in their mental health related to the COVID-19 pandemic, such as increased stress, anxious thoughts, and a depressed mood (Ahlers-Schmidt et al., 2020). These maternal mental health problems, induced by stressful circumstances, such as a pandemic context, may have negative consequences for the mother-infant relationship (Perry et al., 2021) and mother-infant bonding (Hoffman et al., 2017).

Parenting Stress and Mother-Infant Bonding

Mother-infant bonding, the process through which a mother forms an affectionate attachment to her infant (Myers, 1984), has a strong impact on both the socioemotional development of the child and the long-term mother-child relationship, as shown in previous studies (e.g., Lehnig et al., 2019). Also, an impaired mother-infant bonding seems to negatively affect the quality of parenting (Cock et al., 2017). Indeed, a deterioration of the quality of parenting has been highlighted as an important risk factor for adult and child psychopathology (e.g., the child's emotional and behavioral problems) (Fredriksen et al., 2019), and has been associated with higher levels of parenting stress (Mason et al., 2011). Specifically, during the postpartum period, higher levels of parenting stress, (i.e., perceiving that the demands faced in parenting exceed available coping resources to deal with them (Lazarus et al., 1986) were found to be associated with lower maternal sensitivity (Dau et al., 2019), lower maternal responsivity (Mills-Koonce et al., 2011), and more impaired mother-infant bonding (Khoramirad et al., 2020). Although a few studies have found high levels of parenting stress during the COVID-19 pandemic (e.g., Chung & Lanier, 2020), no studies have been performed to date that focus on the postpartum period, so the impact of parenting stress on mother-infant bonding during this pandemic period remains to be explored.

Self-Compassion and Parenting

The identification of modifiable factors that can reduce parenting stress and promote more adaptive parenting and a stronger bond between the mother and child in the postpartum period is particularly important during the current COVID-19 pandemic, as parents are experiencing enormous challenges. Recent studies have highlighted the important role of self-compassion in the promotion of parental well-being and of a more positive relationship with children during this pandemic (e.g., Coyne et al., 2020). Self-compassion can be defined as an adaptive way of relating to oneself characterized by an attitude of kindness toward one's difficult experiences with the desire to relieve one's own suffering (Neff, 2009). It encompasses six key components organized into three bipolar dimensions, namely, self-kindness versus self-judgment (i.e., a tendency to be accepting, kind and noncritical toward oneself when suffering, failing, or feeling inadequate rather than ignoring the pain or adopting a self-judgmental and self-critical attitude), common humanity versus isolation (i.e., seeing one's experiences as part of the larger human experience rather than seeing them as separate and isolating), and mindfulness versus overidentification (i.e., holding one's painful thoughts and feelings in balanced awareness rather than overidentifying with them) (Neff, 2003).

Previous studies have shown that self-compassion can play an important role in parenting. For instance, a study focused on mothers and fathers of children aged between three and five years old showed that parents with higher levels of self-compassion showed more responsiveness, warmth, and an increased ability to respond in a more sensitive and resilient manner to the challenges of parenting (Psychogiou et al., 2016). Self-compassion has also been shown to be negatively associated with parenting stress among mothers of school-aged children and adolescents from the general community (Moreira et al., 2015) and parents of children with an autism spectrum disorder (Torbet et al., 2019). Although the literature on self-compassion in the postpartum period is limited, it has been suggested that self-compassion can influence the way mothers interact with their infants and the quality of the attachment that they establish (Cree, 2010). In addition, self-compassion was shown to be a protective emotional regulation strategy during the postpartum period (Pedro et al., 2019) and to increase the likelihood of postpartum mothers having higher levels of positive mental health (Monteiro et al., 2020a; 2020b).

Mindful Parenting

Self-compassion was also shown to be positively associated with mindful parenting (e.g., Moreira et al., 2015), a parental approach that has been identified as a useful way to decrease levels of parenting stress (Moreira et al., 2019) and to promote more positive parent-child

relationships (Bögels & Restifo, 2014). Mindful parenting can be defined as a set of parenting skills or practices that extends the concept of mindfulness to the context of parent-child relationships (Duncan et al., 2009) and is characterized as a more accepting, emotionally attuned, and compassionate way of parenting (Coatsworth et al., 2018). These parenting practices aim to promote responsive and sensitive care to the child's needs (Medeiros et al., 2016), through the promotion of mindful parenting skills such as *listening with full attention to the child*, *emotional awareness of the child*, *self-regulation in the parenting relationship*, *a nonjudgmental acceptance of parental functioning* and *compassion for the child* (Duncan et al., 2009).

Several studies among parents of school-aged children have demonstrated that adopting a mindful parenting approach is associated with more positive parenting styles and practices (Bögels & Restifo, 2014), more positive interactions and higher quality relationships between parents and children (Duncan et al., 2009), and a secure parent-child attachment relationship (Zhang et al., 2019). Mindful parenting has also been associated with lower levels of parenting stress (Bögels & Restifo, 2014; Gouveia et al., 2016). Despite the benefits related to mindful parenting, the study of mindful parenting in the postpartum period is still in its infancy. The few studies that have focused on this period have shown that postpartum mothers who engage in more mindful parenting practices tend to experience lower levels of parenting stress (Fernandes et al., 2020a). It has also been suggested that mindful parenting training can reduce postpartum mothers' psychopathological symptoms and promote a more positive mother-infant relationship through the promotion of mindful parenting skills (Potharst et al., 2017).

The Current Study

Despite the evidence of the positive role of self-compassion in the psychological adjustment of parents and in the mother-child relationship, few studies have focused on the postpartum period, and no study has yet been conducted in the context of the current pandemic. Therefore, this study aimed to longitudinally analyze the association between self-compassion and mother-infant bonding and explore the mediating role of mindful parenting and parenting stress in this relationship. A better understanding of the role of maternal self-compassion on parenting and on mother-infant bonding may be particularly relevant in the context of the pandemic, especially if more waves occur and lockdown restrictions are strengthened again (Vazquez-Vazquez et al., 2020). In addition, since the context of the pandemic shares several characteristics with other risk and stressful contexts, that have a potential negative impact on mother-infant relationships and parenting, this knowledge may provide important insights that could be applied outside of the COVID-19 pandemic. Based on a previously available investigation, we expected higher levels of self-compassion to be associated with less impaired mother-infant bonding through higher levels

of mindful parenting (Nguyen et al., 2020) and lower levels of parenting stress (Moreira et al., 2019).

Methods

Participants

The sample included 125 Portuguese mothers of infants aged between zero and 12 months (*M*(*SD*) = 5 (3.23) (T1); 6.57 (3.31) (T2)). As presented in Table 1, most mothers were living in a nuclear family type (i.e., a family with two parents and their children), had completed higher education, and were currently on maternity leave. Most mothers reported not being infected by COVID-19 and not belonging to a COVID-19 risk group (i.e., having a cardiac disease, diabetes, or pulmonary disease; DGS (Directorate-General of Health) (DGS, 2020c). The complete sociodemographic, clinical, and COVID-19-related information is presented in Table 1.

Table 1

Sociodemographic, Clinical and COVID-19-related Information of the Sample [T1]

Mothers' sociodemographic information	*N = 125* [T1]
Mothers' age (years) *M* (*SD*); range	33.69 (4.68); 23-46; missing: 22
Current employment status n (%)	
Working in the workplace, full-time	11 (8.9%)
Working from home	16 (12.9%)
License for helping children (< 12 years old) after the closure of schools	4 (3.2%)
Laid off	5 (4%)
Unemployed, housewives, full-time mothers, students	18 (14.5%)
Sick leave	2 (1.6%)
Maternity leave	68 (54.8%)
Marital status n (%)	
Living with a partner	116 (92.8%)
Not living with a partner	9 (7.2%)
Type of family n (%)	
Single parent	2 (1.6%)
Nuclear	104 (83.2%)
Extended	19 (15.2%)
Education n (%)	
Basic or secondary education	30 (24%)
Higher education	95 (76%)
Household monthly income n* (%)	

Less than 2000€	88 (70.4%)
2000€ or above	37 (29.6%)
Area of residence n (%)	
Urban	89 (71.2%)
Rural	36 (28.8%)
Babies' information	
Age (months) *M* (*SD*); range	5 (3.23); 0-12
Sex n (%)	
Girls	65 (52.0%)
Boys	60 (48.0%)
Mothers' clinical information	
Parity n (%)	
Primiparous	83 (66.4%)
Multiparous	42 (33.6%)
Current diagnosis of a psychological and/or psychiatric problem n (%)	
Yes	9 (7.2%)
No	116 (92.8%)
Current psychological treatment n (%)	
Yes	10 (8%)
No	115 (92%)
Obstetric complications n (%)	
In mothers	42 (33.6%)
In babies	7 (5.6%)
COVID-19-related information	
Mother's COVID-19 diagnosis n (%)	
Healthy	122 (97.6%)
Suspected contact with someone infected	1 (0.8%)
Infected with COVID-19	1 (0.8%)
Recovered	1 (0.8%)
Baby was infected with COVID-19 n (%)	
No	125 (100.0%)
COVID-19 contagion risk group n (%)	
Yes	18 (14.4%)
No	107 (85.6%)

*The Portuguese minimum wage in 2020 was 635€.

Procedure

This study was a longitudinal study conducted during the first wave of the COVID-19 pandemic. The first assessment (T1) took place between April 30 and May 21, which corresponded to a period of major restrictions in Portugal (state of national emergency and the first phase of the plan for lifting lockdown measures). The second assessment (T2) took place 2 months after

T1, between June 24 and July 22, a period that corresponded to the return to the "new normal" (after lifting lockdown measures). Participants were eligible for the study if they fulfilled the following inclusion criteria: (i) being Portuguese; (ii) being over 18 years old; and (iii) having at least one child between zero and 12 months.

The sample was recruited online through a data collection website (LimeSurvey®). The survey link was shared through e-mail, unpaid cross-posting, and paid boosting campaigns. Several advertisements explaining the main goals of the study and presenting the inclusion criteria and the web link to the survey were posted on a Facebook page about parenting and mental health that was previously created by the research team as well as on social networks, including Facebook pages about parenting issues after the birth of a child and parenting forums. Participants who clicked on the link were then given detailed information about the study, namely, a description of the objectives, inclusion criteria, and ethical statement of the study. Participants were informed that their participation was voluntary and anonymous. Only those who agreed to the study conditions and who provided their informed consent by clicking on the option "I understand and accept the conditions of the study" completed the assessment protocol. After completing all measures, participants who were interested in participating at T2 provided their e-mail address. Two months later, an email containing the link to the online survey was sent to these participants. Of the 567 mothers who participated at T1, 250 (44.09%) provided their e-mail address to participate at T2. Of these individuals, only 130 participants completed the survey at T2. Five women were excluded because one or more of the study questionnaires were not completed. Therefore, 125 participants completed all questionnaires and were included in the present study.

Mothers who responded to the T2 survey (n = 130) had a higher level of education (χ^2 = 21.60, p < .001, Cramer's V = .195) and a higher household monthly income (χ^2 = 4.77, p = .029, Cramer's V = .092) than those who did not respond to the T2 survey (n = 437). They also presented lower levels of self-compassion ($F_{(1, 566)}$ = 5.62, p = .018, η^2_p = .010) and more impaired mother-infant bonding ($F_{(1, 566)}$ = 7.44, p = .007, η^2_p = .010) than mothers who did not respond to T2.

Measures

Sociodemographic, Clinical and COVID-19-related Information

The first part of the online survey was specifically developed for this study by the research team and included questions on standard sociodemographic information (e.g., participants' age, education, type of family, and current employment status) and clinical data (e.g., obstetric information and prior history of psychopathological problems). It also included questions to assess several COVID-19-related aspects that were developed based on the DGS national guidelines

(DGS, 2020a, 2020b, 2020c, 2020d). Specifically, participants were asked about 1) COVID-19 diagnoses (healthy *vs.* suspected contact with someone infected *vs*. infected with COVID-19 *vs.* recovered); 2) if their baby was infected with COVID-19 ("Has your baby been infected with COVID-19?" [yes or no]); and 3) their COVID-19 contagion risk group ("Do you belong to a COVID-19 risk group according to the DGS [i.e., having a cardiac disease, diabetes, or pulmonary disease]?" [yes or no]).

Self-compassion

The short version of the Portuguese version of the Self-Compassion Scale (SCS-SF) (Castilho et al., 2015; Raes et al., 2011) was used to measure mothers' self-compassion. The SCS-SF comprises 12 items (e.g., "When I'm going through a very hard time, I give myself the caring and tenderness I need") answered on a 5-point response scale, ranging from 1 (*almost never*) to 5 (*almost always*). After negative items are reverse coded, it is possible to obtain a global measure of self-compassion by estimating the mean of the 12 items, with higher scores indicating more self-compassion. In the present sample, the Cronbach's alpha coefficients were .92 (T1) and .93 (T2).

Mindful Parenting

To assess mindful parenting among parents of infants, the Portuguese Interpersonal Mindfulness in Parenting Scale (IM-P - Infant version) (Caiado et al., 2020; Duncan, 2007) was used. The infant version is similar to the original Portuguese IM-P, but items were adapted for parents of infants. For instance, the item "I often react too quickly to what my child says or does" was modified to "I often react too quickly when my baby gets agitated or cries". Item four was deleted ("I listen carefully to my child's ideas, even when I disagree with them"). Therefore, the final Portuguese IM-P - Infant version contains 28 items scored on a 5-point response scale, ranging from 1 (*never true*) to 5 (*always true*). The total score is the sum of the items, and higher scores indicate higher levels of mindful parenting. In the current sample, Cronbach's alpha coefficients were .89 (T1 and T2).

Parenting Stress

The Portuguese version of the Parental Stress Scale (PSS) (Berry & Jones, 1995; Mixão et al., 2010) was used to assess parenting stress. The questionnaire has 18 items (e.g., "Caring for my child(ren) sometimes takes more time and energy than I have to give") answered on a 5-point response scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The total score is calculated as the sum of the items, with higher scores indicating more parenting stress. In the current sample, Cronbach's alpha coefficients were .88 (T1) and .88 (T2).

Mother-Infant Bonding

To assess mother-infant bonding, the Portuguese version of the Postpartum Bonding Questionnaire (PBQ) (Brockington et al., 2006; Nazaré et al., 2012) was used. The PBQ is a self-report questionnaire designed to provide an early indication of mother-infant bonding disorders, though the frequency of mother's cognitive and emotional responses to their infant. Specifically, in the Portuguese version of the PBQ these responses are evaluated though several indicators, such as emotional distancing (which refers to the mother's absence or low positive feelings and closeness with the baby), frustration (which refers to mother's irritability in the mother-infant interaction and feelings of lack of confidence in providing care to the baby), rejection (which refers to the mother's regret of the birth and the desire to assign baby care tasks to someone else) and aggressiveness (expressed through a desire or impulse to harm the baby) (Nazaré et al., 2012). The Portuguese version of the PBQ has 12 items (e.g., "I feel close to my baby") rated on a 5-point response scale, ranging from 0 (*never*) to 5 (*always*). The total score is calculated as the sum of the items, with higher scores indicating more impaired mother-infant bonding. In the present sample, Cronbach's alpha coefficients were .80 (T1) and .75 (T2).

Anxious and Depressive Symptomatology

The Portuguese version of the Hospital Anxiety and Depression Scale (HADS) (Pais-Ribeiro et al., 2007; Snaith & Zigmond, 1994) was used to assess levels of anxious and depressive symptomatology in the previous week. This questionnaire contains 14 items (e.g., "I feel tense or wound up"; "I still enjoy the things I used to enjoy") distributed to assess two factors (anxiety and depression) and uses a 4-point response scale, ranging from 0 (*not at all/only occasionally*) to 3 (*most of the time/a great deal of the time*). The factor scores are the sum of the items, with higher scores indicating higher levels of symptomatology. Scores between 0 and 7 are considered "normal"; between 8 and 10, "mild"; between 11 and 14, "moderate"; and between 15 and 21, "severe". According to Snaith (2003), scores of 11 or higher indicate the possible presence (i.e., "caseness") of a mood disorder. In this sample, Cronbach's alpha coefficients were .87 (T1) and .86 (T2) for anxiety and .81 (T1) and .85 (T2) for depression.

Data Analyses

Data analyses were conducted using the Statistical Package for the Social Sciences (IBM SPSS, version 25.0). Descriptive statistics were computed for all sociodemographic and study variables. Cronbach's alpha coefficient measured the internal consistency of the instruments at T1 and T2. Pearson correlations between study variables were computed. Cohen's guidelines (1988) were used to describe and interpret effect sizes of correlations (i.e., a small effect size for correlations close to 0.10, medium for those near 0.30, and strong for correlations 0.50 or higher). Repeated-measures ANOVAs were used to compare self-compassion, mindful parenting,

parenting stress and mother-infant bonding, considering time (i.e., T1 and T2) as a within-subjects factor, with anxious symptoms and depressive symptoms as covariates. Effect sizes are presented for all analyses as eta-squared (small: $\eta^2_p \geq .01$; medium: $\eta^2_p \geq .06$, and large: $\eta^2_p \geq .14$).

A serial mediation model (Model 6; Hayes, 2013) was estimated using PROCESS (Hayes, 2013). In this model, self-compassion at T1 was the independent variable, mindful parenting at T1 and parenting stress at T1 were the mediators, and mother-infant bonding at T2 was the dependent variable. To identify possible covariates that should be introduced into the mediation model, Pearson's and point-biserial correlations between the mediators and dependent variable and sociodemographic, clinical, and COVID-19-related information were also computed. A bootstrapping procedure using 10000 resamples was used to assess the indirect effect. This procedure creates 95% bias-corrected and accelerated confidence intervals (95% BCaCIs) of indirect effects, which are considered significant when zero is not contained within the lower and upper CIs.

Results

Comparative Analyses of Study Variables between T1 and T2 and Correlations among Study Variables

Most mothers reported normal or mild levels of anxious and/or depressive symptomatology at T1 (n = 88, 70.4%) and T2 (n = 91, 72.8%). Only 29.6% at T1 (n = 37) and 27.2% at T2 (n = 34) reported clinically significant levels of symptoms (i.e., scored ≥ 11 on one or both of the HADS subscales).

Significant differences were found between T1 and T2 in self-compassion ($F_{(1, 124)}$= 5.88, p = .017, η^2_p = .05), mother-infant bonding ($F_{(1, 124)}$= 8.75, p = .004, η^2_p = .07), and depressive symptoms ($F_{(1, 124)}$= 4.83, p = .030, η^2_p = .04), with mothers presenting higher levels of self-compassion, less impaired mother-infant bonding and lower levels of depressive symptoms at T2 (see Table 2). When anxious symptoms and depressive symptoms were controlled as covariates, no differences between T1 and T2 were found in any variable (see Table 2).

Correlations between study variables are presented in Table 2. At both assessment points, self-compassion was significantly and positively correlated with mindful parenting and negatively correlated with impaired mother-infant bonding, parenting stress, anxious symptoms and depressive symptoms; mindful parenting was significantly and negatively correlated with parenting stress, impaired mother-infant bonding, anxious symptoms and depressive symptoms; and parenting stress was significantly and positively correlated with impaired mother-infant

bonding, anxious symptoms and depressive symptoms. Anxious symptoms and depressive symptoms were positively and significantly correlated with impaired mother-infant bonding. All correlations were strong.

Table 2

Correlations, Descriptive Statistics and Comparative Analyses of Self-Compassion, Mindful Parenting, Parenting Stress, Mother-infant Bonding, Anxious Symptoms and Depressive Symptoms at T1 and T2

	Study variables	1	2	3	4	5	6	7	8	9	10	11	*M* (*SD*)	Comparative analyses					
														F	*p*	η^2_p	*F*	*p*	η^2_p
1	Self-compassion (T1)	-											39.26 (10.19)	5.88	**.017**	.05	0.02	.898	.00
2	Self-compassion (T2)	.83*	-										40.56 (10.40)						
3	Mindful Parenting (T1)	.74*	.66*	-									115.33 (13.55)	2.07	.153	.02	0.27	.602	.00
4	Mindful Parenting (T2)	.66*	.70*	.78*	-								116.46 (13.22)						
5	Parenting Stress (T1)	-.61*	-.61*	-.72*	-.64*	-							37.62 (9.87)	1.70	.195	.01	2.30	.132	.02
6	Parenting Stress (T2)	-.55*	-.62*	-.62*	-.75*	.84*	-						36.98 (9.49)						
7	Mother-infant Bonding[1] (T1)	-.41*	-.42*	-.53*	-.44*	.74*	.64*	-					5.02 (4.57)	8.75	**.004**	.07	0.28	.598	.00
8	Mother-infant Bonding (T2)	-.37*	-.47*	-.46*	-.59*	.71*	.79*	.78*	-				4.26 (3.78)						
9	Anxious Symptoms (T1)	-.67*	-.58*	-.55*	-.49*	.49*	.40*	.24*	.27*	-			7.83 (4.49)	3.74	.055	.03	Covariate		
10	Anxious Symptoms (T2)	-.61*	-.64*	-.50*	-.58*	.47*	.49*	.29*	.36*	.77*	-		7.31 (4.44)						
11	Depressive Symptoms (T1)	-.59*	-.56*	-.60*	-.53*	.66*	.56*	.48*	.44***	.67*	.60*	-	6.33 (4.05)	4.83	**.030**	.04	Covariate		
12	Depressive Symptoms (T2)	-.54*	-.63*	-.49*	-.58*	.58*	.63*	.40*	.53*	.57*	.75*	.72*	5.71 (4.35)						

Note. [1] Higher score indicating more impaired mother-infant bonding.

*$p < .001$

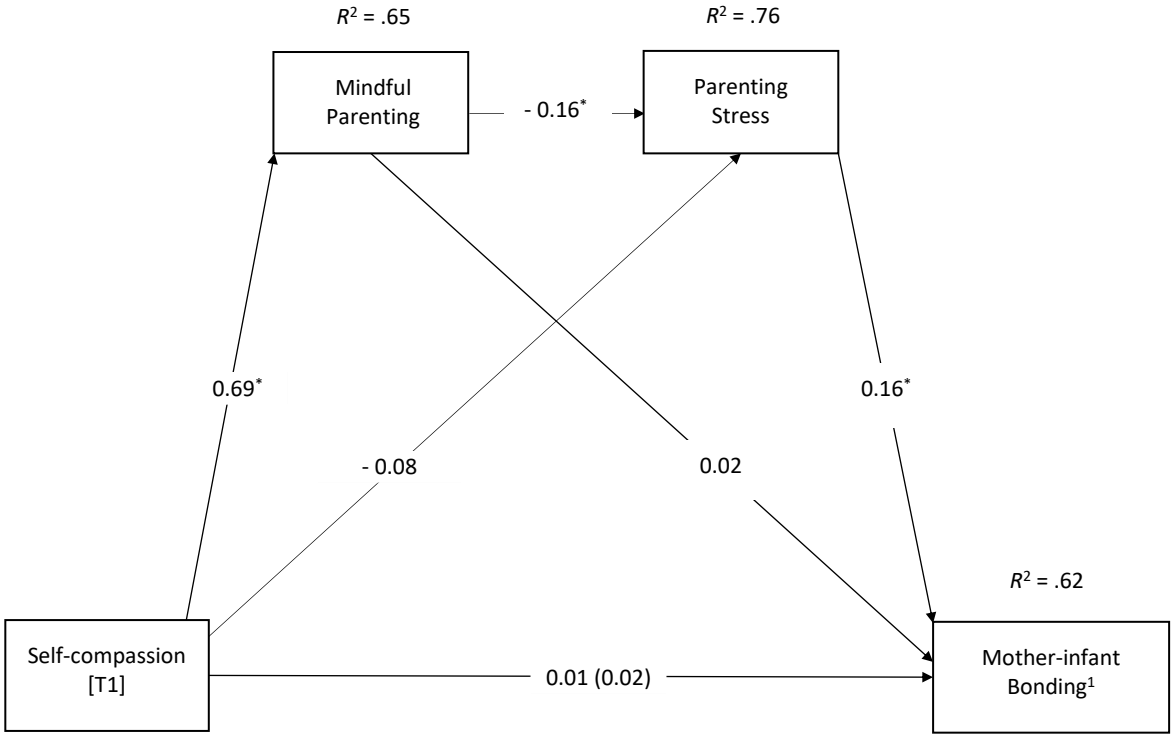
The Indirect Effect of Mothers' Self-compassion on Mother-Infant Bonding Through Mindful Parenting and Parenting Stress

Prior to mediation analyses, Pearson's and point-biserial correlations between sociodemographic, clinical, and COVID-19 variables (T1) and mindful parenting (T1), parenting stress (T1) and mother-infant bonding (T2) were analyzed to determine whether any variable should be introduced in the model as a covariate. A significant positive correlation was found between mothers' education (0 = basic and secondary education and 1 = higher education) and impaired mother-infant bonding (r_{pb} = .19, p = .035), and parenting stress (r_{pb} = .31, p = .001), and a significant and negative correlation was found between mothers' education and mindful parenting (r_{pb} = -.22, p = .012). Additionally, a significant positive correlation was found between parity (0 = primiparous and 1 = multiparous) and impaired mother-infant bonding (r_{pb} = .18, p = .044). Therefore, mothers' education and parity (T1) were introduced as covariates into the regression model. Baseline levels of mother-infant bonding (T1), anxious symptoms (T1) and depressive symptoms (T1) were also controlled in mediation analyses.

As presented in Figure 1, self-compassion was significantly and positively associated with mindful parenting (b = 0.69, p < .001) and, along with the covariates, explained 65.18% of its variance. Self-compassion (b = -0.08, p = .273) was negatively associated with parenting stress and mindful parenting (b = -0.16, p < .001) were significantly and negatively associated with parenting stress, with self-compassion and mindful parenting, along with the covariates, explained 75.98% of its variance. The model explained 61.6% of the mother-infant bonding; while self-compassion (b = 0.02, p = .562) and mindful parenting (b = 0.02, p = .365) were not significantly associated with this outcome, higher levels of parenting stress significantly predicted more impaired mother-infant bonding (b = 0.16, p < .001). All paths for the full process model, as well as unstandardized regression coefficients, are illustrated in Figure 1.

Figure 1

Statistical Diagram of the Serial Mediation Model for the Presumed Influence of Mindful Parenting and Parenting Stress on the Association between Self-Compassion and Mother-Infant Bonding



Note. Path values represent unstandardized regression coefficients. In the arrow linking self-compassion and mother-infant bonding, the value outside the parentheses represents the total effect model of self-compassion on mother-infant bonding after the inclusion of the mediators. The value in parentheses represents the direct effect from the bootstrapping analysis of self-compassion on mother-infant bonding after the inclusion of the mediators. Mothers' education, parity, anxious symptoms (T1), depressive symptoms (T2), and mother-infant bonding (T1) were introduced as covariates into the regression model. For simplicity, these covariates are not shown in the figure.

[1] Higher score indicating more impaired mother-infant bonding.

*p < .001

Although the total effect (0.01; 95% BCaCIs = -0.05/0.07) and direct effect (0.02; 95% BCaCIs = -0.05/0.09) of self-compassion on mother-infant bonding were not significant, a significant indirect effect was found, as presented in Table 3. Specifically, self-compassion was found to be indirectly associated with mother-infant bonding through the two mediators sequentially (mindful parenting and parenting stress), with an estimated value of -0.02 (95% BCaCIs = -0.04/-0.01) (see Table 3).

Table 3

Indirect Effects of Self-Compassion on Mother-infant Bonding Through Mindful Parenting and Parenting Stress

Indirect effects	**Point estimate**	***SE***	**95% BCaCI lower/upper**
Self-compassion → Mindful Parenting → Mother-infant Bonding	0.02	0.02	-0.02/0.06
Self-compassion → Mindful Parenting → Parenting stress → Mother-infant Bonding	-0.02	0.01	**-0.04/-0.01**
Self-compassion → Parenting stress → Mother-infant Bonding	-0.01	0.01	-0.04/0.01

Discussion

In the present study, we aimed to longitudinally investigate whether mothers' self-compassion predicted mother-infant bonding during the postpartum period in the first wave of the current COVID-19 pandemic and whether this relationship was explained in part by the mindful parenting and parenting stress of mothers. Our results corroborated our hypotheses by showing that higher levels of self-compassion predicted less impaired mother-infant bonding through the two mediators sequentially (i.e., mindful parenting and parenting stress).

Regarding differences between the two assessment points, our results showed a significant increase in mothers' self-compassion and a significant decrease in mother-infant bonding impairment and depressive symptoms at T2. Interestingly, differences in self-compassion and mother-infant bonding were not significant when anxious symptoms and depressive symptoms were controlled in analyses.

With regard to higher levels of depressive symptoms at T1, this result is in accordance with previous studies conducted with postpartum mothers during the COVID-19 pandemic, showing that lockdown and pandemic-related restrictions had a negative impact on maternal mental health, specifically on depressive symptoms (Zanardo et al., 2020). Gradually, the lifting of lockdown measures allowed mothers to return to a "new normal" and resume their daily routines, which may have increased their in-person contact with their significant others and other mothers. In addition, the opening of educational and social services (e.g., nurseries) may have supported mothers with infant care. These changes may have had a positive impact on maternal mental health, specifically, on depressive symptoms and may have led mothers to feel less isolated, more able to be compassionate with themselves, and more emotionally available to provide care to their infant.

Our results also suggest that mothers had more difficulty engaging in a more compassionate attitude toward themselves at T1, a period of major and severe pandemic-related restrictions. Several explanations may account for this result. For instance, it is possible that during this period, mothers were more worried and felt more fear of contracting COVID-19, which may have led them to focus more on the future (Vieira et al., 2020) and be less mindful of the present moment. In addition, the need for social isolation during this pandemic phase and the consequent lack of instrumental support (e.g., assistance in domestic tasks and with infant care) may have left mothers feeling overwhelmed in their role as a mother and dealing with the baby's demands, reducing their ability to accept their mistakes and failures in parenting situations. We also hypothesize that lower levels of self-compassion at T1 may have been associated with higher levels of depressive symptoms at this time, which is corroborated by the finding that after controlling for depressive and anxious symptoms, differences in self-compassion were no longer significant. These results are in line with previous research that has consistently shown that postpartum mothers with depressive symptoms tend to report lower levels of self-compassion (e.g., Monteiro et al., 2019). In fact, mothers who experience depressive symptoms tend to experience higher levels of self-criticism (Vliegen & Luyten, 2009), more frequent negative automatic thoughts, and more dysfunctional motherhood-related attitudes (Fonseca & Canavarro, 2019), and they tend to experience more negative affect (Campbell et al., 2008). This may prevent them from adopting a nonjudgmental attitude toward themselves when they notice those negative feelings, cognitions, or experiences and from accepting those feelings and experiences as a part of the common and shared experience of parenting (Neff, 2003), possibly explaining lower levels of self-compassion.

We also found that mothers presented more impaired mother-infant bonding at T1, and we hypothesize that during this period, mothers may have not obtained the expected level of support and care during the postpartum period (Thapa et al., 2020), which may have had a negative impact on their emotional availability to provide care for their infant. This result may also be strongly associated with mothers' psychopathological symptoms, as depression was higher at T1, and differences in mother-infant bonding were no longer significant when symptoms were controlled in analyses. Previous research has shown that mothers with poorer mental health have more difficulty in their role as a mother, respond less to the infant's cues (Missler et al., 2018), are less sensitive (Lilja et al., 2012) and establish lower quality mother-infant interactions (Horowitz et al., 2019). Specifically, previous studies have shown that mothers with depressive symptoms presented lower levels of emotional availability (Vliegen et al., 2013) and more impaired mother-infant bonding (Radoš et al., 2020).

With regard to the mediation model, in line with our expectations, the indirect effect of self-compassion on mother-infant bonding though mindful parenting and parenting stress suggests that mothers who adopt a kind and compassionate attitude toward themselves are more likely to adopt a mindful attitude in their parenting, which in turn leads them to experience lower levels of parenting stress and, consequently, to provide healthier emotional and cognitive responses to their infant. It is also important to note that the total and direct effects of self-compassion on mother-infant bonding were not significant, which emphasizes the relevance of considering the role of the mediators (i.e., mindful parenting and parenting stress).

According to our expectations, mothers' self-compassion was shown to be significantly and positively associated with mindful parenting, which is in line with previous research (Nguyen et al., 2020). Mothers who are more self-compassionate tend to hold their painful thoughts and feelings in balanced awareness (Neff, 2003), and tend to blame themselves less often for their parenting behaviors because they have a greater sense of common humanity (Moreira et al., 2016). This seems to increase their ability to decenter and not overidentify with negative thoughts about their infants and their role as a mother (Gouveia et al., 2016). Specifically, in a pandemic environment, the greater capacity to nonjudgmentally accept their limitations and imperfections as mothers seems to increase the likelihood of adopting the same mindful approach toward their infants.

In addition, our results also suggested that mothers who were more self-compassionate and adopted a mindful approach to parenting seemed to experience lower levels of parenting stress. Across multiple studies, mindful parenting has been linked to lower levels of parenting stress, suggesting that a mindful parenting style may help parents to better cope with demands and stresses of parenting (e.g., Gouveia et al., 2016), including in the postpartum period (e.g., Potharst et al., 2017). Mindful mothers seem to be more able to pause before responding to a situation and shift their awareness to view their present-moment parenting experience (Duncan et al., 2009). This may allow them to better assess infant signals and to react sensitively to them (Mills-Koonce et al., 2011), which may decrease parenting stress. The adoption of a self-compassionate attitude and a consequent adoption of a mindful approach to parenting may be particularly relevant during a pandemic, which seems to be a major stressor for postpartum mothers (Thapa et al., 2020).

Finally, mindful parenting, which seems to be promoted by greater self-compassion, seems to contribute to less impaired mother-infant bonding in the postpartum period by interrupting the negative effect of parenting stress. This novel result suggests an interrelationship among these constructs (i.e., mindful parenting and parenting stress) and a sequence of mechanisms through which mother-infant bonding may be promoted. However, it is important to acknowledge that

the inverse relationship is also possible. Future longitudinal studies with more assessment points should focus on understanding the direction of this relationship (i.e., if mindful parenting leads to lower levels of parenting stress or if parenting stress leads to lower levels of mindful parenting).

Although there have been no studies specifically exploring the relationship among mindful parenting, parenting stress and mother-infant bonding, it is well established that mindful parents are more able to self-regulate during parent-child interactions, that is, to pause and purposely choose parenting practices that are in accordance with the parent's values and goals, instead of automatically reacting to the child's behavior (Duncan et al., 2009). Additionally, mindful parents tend to exhibit greater warmth and support in the relationship with their children (Gouveia et al., 2016), being sensitive and responsive to the child's needs (Bögels & Restifo, 2014). In addition, previous studies have demonstrated the association between parenting stress and mother-infant bonding, suggesting that lower levels of parenting stress are associated with mothers' feelings of high competence in their role as a mother and emotional closeness to the child (Cock et al., 2017). Therefore, it is expected that the adoption of a mindful approach to parenting leads to lower levels of parenting stress, and both may facilitate the establishment of less impaired mother-infant bonding.

Limitations, Future Research and Clinical Directions

Some limitations of this study should be mentioned. First, this was a longitudinal study with only two points of assessment; therefore, causal relationships cannot be inferred, and alternative models may be possible. Future longitudinal studies with more points of assessment are needed to better understand the directionality and associations between variables explored in the current study. Second, the sample was collected online, which could lead to self-selection bias because people who participated in this study were likely to be more motivated and interested in the subject than those in the general population. Third, the sample was entirely composed of mothers, which limits the generalization of these results to fathers. Future studies should attempt to include both mothers and fathers to assess sex differences in associations presented in the model. Fourth, most mothers in this study had completed higher education and lived in urban areas, which may limit the generalization of the results to mothers with different sociodemographic characteristics. Future studies should include more heterogeneous and representative samples. Fifth, mothers who responded to the second assessment had a higher level of education, higher household monthly income, lower levels of self-compassion and more impaired mother-infant bonding than those who did not respond, which may limit the generalization of the results. Sixth, only self-reported instruments were used to assess the study variables, which can be influenced by social desirability and do not reliably reflect participants'

feelings or thoughts, potentially compromising the validity of the results. Finally, several birth and infant-related variables were not considered, such as gestational age, twin pregnancy, infant temperament, which may have had influence in the results of this study. Future studies should consider these variables and evaluate differences between different groups of mothers and infants, in order to draw more robust conclusions.

The current study also has important strengths, research, and clinical implications. It provides an innovative contribution to better understanding specific mechanisms (i.e., mindful parenting and parenting stress) through which mothers' self-compassion may exert an effect on mother-infant bonding. This study innovatively suggests that mother's self-compassion plays an important role in the adoption of a mindful approach to parenting, protecting the mothers against experiencing higher levels of parenting stress, and promoting a healthy mother-infant bonding.

Self-compassion and mindful parenting are conceptualized as important adaptative psychological processes that can be enhanced with training. In addition, mindfulness is a pre-requisite to self-compassion, and it is one of its components, so it is expected that learning to be mindful of negative thoughts and emotions also increases one's ability to be self-compassionate (Neff & Davidson, 2016). Thus, and according to the results of this study, it may be relevant such an intervention which could combine self-compassion training, for instance though specific exercises of compassionate mind training (Cree, 2010), and a mindful parenting-based intervention, for instance though meditations focused on mother-infant interaction (Potharst et al., 2017), that can contribute to reduce parenting stress, so that mother-infant bonding can be promoted.

Moreover, in a preventive perspective, this study emphasizes the need of identifying mothers who present a higher risk of developing parenting stress by, for instance, screening for parenting stress symptoms in health care services and by referring mothers who could benefit from psychological care, especially a self-compassion and a mindful parenting intervention. It is also relevant to stop to idealize the motherhood in order to prevent negative consequences for maternal mental health and mother-infant relationship (e.g., Slomian et al., 2017).

However, it is important to keep in mind that, in addition to well-known practical, attitudinal, and structural barriers that keep postpartum mothers from seeking traditional face-to-face professional help (Dennis & Chung-Lee, 2006; Fernandes et al., 2020b), the current risk of contagion in face-to-face interventions created the need to develop web-based psychological interventions. These interventions seem to be useful in reducing the spread of COVID-19 disease during the pandemic (Thapa et al., 2020) and have been shown to be easily accessible, safe and cost-effective compared to face-to-face interventions (Preuss et al., 2020). Previous e-health interventions designed for mothers in the postpartum period showed promising results. For

instance, an online intervention focused on promoting self-compassion was shown to promote mothers' well-being (Mitchell et al., 2018); an online acceptance- and compassion-based intervention was shown to promote mother's self-compassion, adaptive emotion regulation skills (Fonseca et al., 2019) and positive mental health (Monteiro et al., 2020a; 2020b); and an online mindful parenting training for mothers of toddlers was shown to effectively promote mothers' self-compassion and it seemed an easily accessible and valuable intervention for mothers with high levels of parenting stress (Potharst et al., 2019). Future studies with more robust methodologies are needed, as well as future empirically validated e-health interventions that combine self-compassion training, mindful parenting training and parenting stress management, to promote mother-infant bonding.

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Compliance with Ethical Standards

Ethical Approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The Ethics Committee of the Faculty of Psychology and Educational Sciences of the University of Coimbra approved the study on October 4th, 2018.

Informed Consent: Informed consent was obtained from all individual participants included in the study.

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Estudo Empírico IV

Self-compassion and mindful parenting among postpartum mothers during the COVID-19 pandemic: The role of depressive and anxious symptoms

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Self-compassion and mindful parenting among postpartum mothers during the COVID-19 pandemic: The role of depressive and anxious symptoms

Abstract

Self-compassion is an important psychological skill that may facilitate the adoption of a mindful way of parenting, especially during the COVID-19 pandemic. However, the association between these constructs may be explained by several variables, such as maternal psychopathological symptoms, with a well-established interference in parenting. This study aimed to compare mothers who experienced and mothers who did not experience a negative emotional impact of the COVID-19 pandemic on self-compassion, mindful parenting, postpartum depressive symptoms (PPDS) and postpartum anxious symptoms (PPAS). We also explored whether mothers' self-compassion was associated with mindful parenting and whether this relationship may be mediated by PPDS and PPAS. A sample of 977 Portuguese mothers of infants aged between zero and six months completed an online survey between December 2020 and January 2021, a period of major pandemic-related restrictions. The survey included several self-report questionnaires that assessed sociodemographic, clinical, and COVID-19 information, self-compassion, mindful parenting, PPDS and PPAS. Mothers who reported having felt that the pandemic had a negative emotional impact during their postpartum period (79.5%) presented lower levels of self-compassion and mindful parenting, and higher levels of PPDS and PPAS. Regarding the mediation model, higher levels of self-compassion were related to higher levels of mindful parenting, and this association was mediated by lower levels of PPAS. These results highlight the relevance of mothers' self-compassion for helping them feel less anxious and to adopt a mindful way of parenting in the postpartum period, particularly during the pandemic. Compassion-based interventions may be particularly important in reducing PPAS and promoting mindful parenting and should be available to postpartum mothers, especially during, but also beyond the pandemic.

Keywords**:** Postpartum period; COVID-19 pandemic; Self-compassion; Mindful parenting; Depressive symptoms; Anxious symptoms

Introduction

The COVID-19 Pandemic and Maternal Mental Health

During the last two years, the COVID-19 pandemic has had a biopsychosocial, spiritual, and economic global effect in population around the world (e.g., Tanhan et al., 2021). Over time, the pandemic went through different waves, characterized by periods when the number of patients with COVID-19 disease gradually increased. Many countries, including Portugal, have adopted social restrictive measures and lockdowns to control the number of newly infected patients (Oskovi-Kaplan et al., 2021). In Portugal, the periods of major pandemic-related restrictions occurred between March and May 2020 and between December 2020 and April 2021, including social physical distancing, lockdowns, the use of hygienic masks, the closure of schools and nonessential businesses such as cinemas and cafes, and the adoption of telework (Diário da República Eletrónico [DRE], 2020). Recent literature has shown that the pandemic and adopted restrictive measures are associated with an increased risk of mental health problems in the general population, especially in vulnerable groups, such as postpartum mothers (Baran et al., 2021; Fernandes, 2021b; Liu et al., 2021). Additionally, it is well-known that mental health problems, and specifically a mood disorder, generally predicts lower adherence to health care, including mental health care, which is essential during the postpartum period. Several predictors of nonadherence to treatment were identified, such as younger age (below 40 years old), comorbidity with substance use and personality disorders, patients' beliefs, poor insight, illness severity, treatment-related side effects, specific features of the disease and a poor therapeutic alliance (Pompili et al., 2013), and all should be evaluated, to provide a more effective care, especially during a pandemic.

The postpartum requires particular attention since it is a period of increased vulnerability for mothers' mental health. This period is characterized by major psychological and emotional changes, challenges, and new responsibilities (e.g., adaptation to the new role as a mother) (e.g., Keepanasseril et al., 2021), which may lead mothers to be more vulnerable to developing psychopathological symptoms. These symptoms can be exacerbated in stressful contexts such as the current pandemic (e.g., Harville et al., 2010). Despite the scarce literature, there is already evidence that the current pandemic has enhanced mental health problems during the postpartum period, leading to the development of maternal depressive and anxious symptoms (e.g., Chen et al., 2021; Davenport et al., 2020; Mariño-Narvaez et al., 2021). For instance, a study performed among postpartum mothers during the lockdown showed that mothers presented higher rates of

depressive and anxious symptoms during the pandemic than in the prepandemic period (Suárez-Rico et al., 2021).

Maternal Mental Health and Mindful Parenting

It is well-established that maternal psychopathological symptoms have a negative impact on parenting practices and on the mother-infant relationship, as early as in the postpartum period. Mothers with depressive symptoms tend to adopt negative parenting behaviors and are less likely to be responsive (Lovejoy et al., 2000) and sensitive to their infant's needs (Nath et al., 2019). Similarly, mothers with anxious symptoms typically exhibit more negative parenting behaviors (Crugnola et al., 2016) and present more impaired mother-infant bonding (Fallon et al., 2021; Tietz et al., 2014). Recently, a study developed by Fernandes et al. (2021a) showed a negative association between postpartum depressive symptoms (PPDS) and postpartum anxious symptoms (PPAS) with lower levels of mindful parenting.

Research in the field of maternal mental health and parenting during the pandemic is scarce. However, recent studies have shown that postpartum mothers with depressive symptoms present significantly less strong maternal attachment with their babies (Oskovi-Kaplan et al., 2021) and that mothers with anxious symptoms present more impaired mother-infant bonding (Provenzi et al., 2021). Additionally, mothers who gave birth during the pandemic were shown to present lower levels of the mindful parenting dimension pertaining to the ability to notice and be aware of one's child's emotions and more impaired bonding with their infant than those who gave birth before the pandemic (Fernandes et al., 2021b).

Mindful parenting is characterized by several parenting qualities or skills (Duncan et al., 2009), such as the ability to direct complete attention to the child and to be fully present during parent–child interactions (i.e., listening with full attention to the child); the ability to notice and correctly identify the child's feelings and needs (i.e., emotional awareness of the child); the ability to adopt an attitude of nonjudgmental acceptance of the self as a parent and of the challenges of parenting (i.e., non-judgmental acceptance of parental functioning); the ability to self-regulate in parent–child interactions, in accordance with parenting values and goals (i.e., self-regulation in the parenting relationship); and the ability to be compassionate with the child, adopting a kind, sensitive and responsive attitude to the child's needs (i.e., compassion for the child) (Caiado et al., 2020). In general, this parental approach allows parents to be better able to intentionally bring a nonjudgmental and present-centered awareness to everyday parent-child interactions (Bögels & Restifo, 2014; Kabat-Zinn & Kabat-Zinn, 1997). During the postpartum period, research on mindful parenting remains limited. A few studies have shown that postpartum mothers who engage in more mindful parenting practices tend to experience lower levels of parenting stress

(Fernandes et al., 2021a) and that mindful parenting training can promote more positive mother-infant relationships (Potharst et al., 2017).

Therefore, considering the importance of parenting practices in the first year of life and their profound long-term effects on a child's social, cognitive, and emotional development (Kirby, 2017), further studies are needed to better understand psychological resources that may reduce maternal psychopathological symptoms and promote a more adaptative parenting, particularly during a pandemic.

Self-compassion

An individual psychological resource (Neff & Germer, 2013) that has been associated with better maternal mental health and parenting, during the postpartum period, is self-compassion (e.g., Fernandes et al., 2021c). In general, self-compassion can be characterized by an attitude of kindness toward one's suffering and the desire to relieve it (Neff, 2003, 2009; Neff, & Vonk, 2009), and more specifically it involves three interactive bipolar components: (1) self-kindness versus self-judgment, (2) mindfulness versus overidentification and (3) common humanity versus isolation (Neff et al., 2019). This adaptative way of self-to-self relating, characterized by an attitude of care, and understanding toward oneself, the capacity of being aware of one's painful experiences and the recognition that all human beings are imperfect and suffer, can be highly beneficial for mothers experiencing postpartum challenges.

The literature on the role of self-compassion on maternal mental health in the postpartum period is growing, and there is emerging evidence that self-compassion can be considered an emotional regulation strategy during this period (Pedro et al., 2019), that has a positive and significant impact on maternal mental health. For instance, a study developed by Monteiro et al. (2019) and a study developed by Felder et al. (2016), both conducted with postpartum mothers, indicated that self-compassion was negatively associated with PPDS and PPAS. During the pandemic, several studies conducted among the general population have suggested an association between higher level of self-compassion and lower levels of depressive, anxious and stress symptoms (e.g., Gutiérrez-Hernández et al., 2021). However, the relationship between self-compassion and the negative impact of the COVID-19 pandemic, in terms of mental health, remains to be explored, in postpartum mothers.

Additionally, self-compassion is also associated with positive results in parenting, among parents of children and adolescents, such as less parenting stress, improved children's well-being (Moreira et al., 2015), and higher levels of mindful parenting (Nguyen et al., 2020). Additionally, parents reporting higher levels of self-compassion were found to be less critical and to use fewer distressed reactions to cope with their children's emotions (Psychogiou et al., 2016). In contrast,

lower levels of self-compassion were associated with poor parenting (e.g., low warmth, high overprotection, and high rejection) (Pepping et al., 2015) and higher childhood emotional abuse, emotional neglect, and physical abuse (Tanaka et al., 2011). During the postpartum period, self-compassion and parenting has been scarcely investigated, however there is evidence that self-compassion was associated with higher levels of mindful parenting among mothers of infants (Fernandes et al., 2021b).

Overall, it is well-established that self-compassion is associated with a mindful parenting style, however this relationship may be explained by several variables. It is essential to identify the variables that can influence this association, to devise more effective screening and intervention strategies that may help mothers better cope with the postpartum period and parenting during and beyond the pandemic. Since maternal psychopathological symptoms, such as PPDS and PPAS, have a great interference in parenting, and that self-compassion may promote maternal mental health (that is reducing psychopathological symptoms) it is plausible to consider that such variables may explain the association between self-compassion and mindful parenting. However, these associations remain unexplored during the postpartum period and the current pandemic.

The current study

Therefore, the current study had two main goals. First, we aimed to compare mothers who experienced and mothers who did not experience a negative emotional impact of COVID-19 on self-compassion, mindful parenting, PPDS and PPAS. Second, we aimed to explore whether mothers' self-compassion was associated with mindful parenting and whether this relationship was mediated by psychopathological symptoms, such as PPDS and PPAS. Based on the literature reviewed, we expect mothers with higher levels of self-compassion to present lower levels of psychopathological symptoms (depressive and anxious symptoms), which, in turn, will be associated with higher levels of mindful parenting.

Methods

Participants

The sample included 977 Portuguese mothers of infants aged between zero and six months. As presented in Table 1, most mothers had completed higher education, were employed and were currently on maternity leave. Most mothers were tested for COVID-19 before childbirth and were not infected by the virus. Also, most mothers reported having felt a negative emotional impact

from the pandemic during the postpartum period (79.5%). About 5.4 % of mothers were currently under psychological and/or psychiatric treatment; these mothers were not excluded from the present study since this variable was controlled in the mediation model. The complete sociodemographic, clinical, and COVID-19-related information of the mothers is presented in Table 1.

Table 1

Sociodemographic, Clinical and COVID-19-related Information of the Sample

Mothers' sociodemographic information	*N = 977*
Mothers' age (years) *M* (*SD*); range	32 (4.36); 19-44
Current employment status n (%)	
Employed	900 (92.1%)
Unemployed	77 (7.9%)
*Maternity leave***	68 (54.8%)
Yes	877 (89.8%)
No	100 (10.2%)
Marital status n (%)	
Living with a partner	962 (98.6%)
Not living with a partner	14 (1.4%)
Education n (%)	
Basic or secondary education	250 (25.6%)
Higher education	727 (74.4%)
*Household monthly income** *n* (%)	
Less than 2000€	589 (60.3%)
2000€ or above	388 (39.7%)
Babies' information	
Age (months) *M* (*SD*); range	2.51 (1.27); 0-6
Sex n (%)	
Girls	492 (50.4%)
Boys	485 (49.6%)
Mothers' clinical information	
Parity n (%)	
Primiparous	695 (71.1%)
Multiparous	282 (28.9%)
Psychological and/or psychiatric problem since childbirth n (%)	
Yes	25 (2.6%)
No	952 (97.4%)
Current psychological and/or psychiatric treatment n (%)	
Yes	53 (5.4%)
No	924 (94.6%)

Obstetric complications n (%)	
In mothers	255 (26.1%)
In babies	62 (6.3%)
COVID-19-related information	
Mother's COVID-19 diagnosis before childbirth (%)	
Infected with COVID-19	10 (1.1%)
Non-infected with COVID-19	935 (98.9%)
Mother's perceived negative emotional impact of the pandemic	
Yes	777 (79.5%)
No	200 (20.5%)

*The Portuguese minimum wage in 2020 was 635€

** In Portugal, the length of maternity leave varies between 90 to 120 days (fully remunerated). More than 120 days will not be fully remunerated by the professional entity.

Procedure

This study is a cross-sectional study conducted between December 2020 and January 2021, which corresponds to a period of major restrictions in Portugal (state of national emergency). The sample was recruited online through a data collection website (LimeSurvey®) after approval from the Ethics Committee (blind for review). The survey link was shared through e-mail, unpaid cross-posting, and paid boosting campaigns. Several advertisements explaining the main goals of the study and presenting the inclusion criteria and the web link to the survey were posted on a Facebook page and an Instagram page about parenting and mental health, as well as on social networks, including Facebook pages about parenting issues after the birth of a child and parenting forums. Participants who clicked on the link were then given detailed information about the study, namely, a description of the objectives, the inclusion criteria, and the ethical statement of the study. Participants were informed that their participation was voluntary and anonymous.

Participants were eligible for the study if they fulfilled the following inclusion criteria: (i) were Portuguese; (ii) were over 18 years old; and (iii) had at least one child aged between zero and six months. Only those who agreed to the study conditions and who provided their informed consent by clicking on the option "I understand and accept the conditions of the study" completed the assessment protocol. Of the 1456 mothers who participated in this study, 434 mothers were excluded because one or more of the study questionnaires were not completed, 25 women were excluded because their babies were more than six months old, and 20 women were excluded because of their nationality (they were not Portuguese). Therefore, 977 participants completed all the questionnaires and were included in the present study.

Measures

Sociodemographic, Clinical and COVID-19-related Information

The first part of the online survey included a standard sociodemographic information form (e.g., age, marital status) and a clinical data form (e.g., obstetric information and history of psychopathological problems). It also included a question about COVID-19 diagnosis before childbirth (infected with COVID-19 versus not infected with COVID-19) and a question about the perceived negative emotional impact of the pandemic ("Do you consider that the current pandemic had a negative impact on your emotional well-being during the postpartum period?") [yes or no]).

Self-compassion

To assess mothers' self-compassion, the short version of the Portuguese version of the Self-Compassion Scale (SCS-SF; Castilho et al., 2015; Raes et al., 2011) was used. The SCS-SF comprises 12 items (e.g., "When I'm going through a very hard time, I give myself the caring and tenderness I need") answered on a five-point response scale, ranging from 1 (*almost never*) to 5 (*almost always*). The total score may be calculated by estimating the mean of the 12 items, with higher scores indicating higher levels of self-compassion. The Portuguese version of the SCS-SF has demonstrated good psychometric qualities. In the present sample, the Cronbach's alpha coefficient was .88.

Mindful Parenting

To assess mindful parenting among mothers of infants, the infant version of the Portuguese Interpersonal Mindfulness in Parenting Scale (IM-P - Infant version; Caiado et al., 2020; Duncan, 2007) was used. This scale contains 28 items, answered on a five-point response scale, ranging from 1 (*never true*) to 5 (*always true*). The total score is the sum of the items, and higher scores indicate higher levels of mindful parenting. In the current sample, Cronbach's alpha coefficient was .85.

Postpartum Depressive Symptoms

To assess depressive symptoms in the postpartum period, the Portuguese version of the Edinburgh Postnatal Depression Scale (EPDS; Figueiredo, 1997; Cox et al., 1987) was used. The EPDS contains 10 items, in women are asked to rate their emotions (e.g., sadness, anxiety) over the previous seven days using a four-point response scale. Higher scores were indicative of higher depressive symptoms. In the Portuguese validation studies (Figueiredo, 1997), a score of 10 or higher was found to be indicative of clinically relevant depressive symptoms. In our sample, Cronbach's alpha was .89.

Postpartum Anxious Symptoms

To assess anxious symptoms, specifically the frequency of maternal and infant-related anxieties specific to the first six months postpartum experienced during the previous seven days, the Postpartum Specific Anxiety Scale (PSAS; Fallon et al., 2016) was used. The original version of this scale was used, after translation to Portuguese language. This scale contains 51 items, answered in four-point response scale ranging from 1 (*not at all*) to 4 (*almost always*). Its original structure comprises four factors: "Maternal Competence and Attachment Anxieties"; "Infant Safety and Welfare Anxieties"; "Practical Infant Care Anxieties"; and "Psychosocial Adjustment to Motherhood". The total score is the sum of the items, with higher scores being indicative of higher anxious symptoms. A score of 112 or higher is indicative of clinically relevant anxious symptoms. In our sample, Cronbach's alpha was .94.

Data Analyses

Data analyses were conducted using the Statistical Package for the Social Sciences (IBM SPSS, version 25.0) and the macro-PROCESS for SPSS (Hayes, 2013). Descriptive statistics were computed for all sociodemographic and study variables. Cronbach's alpha coefficient measured the internal consistency of the instruments. Pearson correlations between the study variables were computed. Cohen's guidelines (1988) were used to describe and interpret the effect sizes of correlations (i.e., a small effect size for correlations close to 0.10, medium effect size for correlations near 0.30, and strong effect size for correlations 0.50 or higher). One-way ANOVAs were used to compare self-compassion, mindful parenting, PPDS and PPAS as a function of mothers' perceived negative emotional impact of the pandemic (yes or no), and we used chi-squared tests to compare categorical variables, as a function of mothers' perceived negative emotional impact of the pandemic. Effect sizes were presented for all analyses as eta-squared (small: $\eta^2_p \geq .01$; medium: $\eta^2_p \geq .06$, and large: $\eta^2_p \geq .14$).

A mediation model (Model 4; Hayes, 2013) was estimated to test whether self-compassion (independent variable) was associated with mindful parenting (dependent variable) through postpartum depressive and anxious symptoms (mediator variables). To identify possible covariates that should be introduced into the mediation model, Pearson's and point-biserial correlations between the mediator and the dependent variable and sociodemographic, clinical, and COVID-19-related information were also computed. A bootstrapping procedure using 10000 resamples was used to assess the indirect effect. This procedure creates 95% bias-corrected and accelerated confidence intervals (95% BCaCIs) of indirect effects, which are considered significant when zero is not contained within the lower and upper CIs.

Results

Comparative Analyses and Correlations among the Study Variables

Approximately 38.2% (*n* = 373) of the mothers reported clinically significant levels of depressive symptoms (i.e., scored ≥ 10 on EPDS), and 47.5% (*n* = 464) reported clinically significant anxious symptoms (i.e., scored ≥ 112 on PSAS).

Firstly, to control confounding effects, we have explored if there were differences in sociodemographic variables as a function of mother's perceived emotional impact of the pandemic. No differences were found in any variable.

Significant differences were found as a function of perceived emotional impact of the pandemic in self-compassion ($F_{(1, 976)}$= 19.36, p < .001, η^2_p = .04), mindful parenting ($F_{(1, 976)}$= 18.67, p = < .001, η^2_p = .02), depressive symptoms ($F_{(1, 976)}$= 130.05, p < .001, η^2_p = .12), and anxious symptoms ($F_{(1, 976)}$= 99.15, p < .001, η^2_p = .09), with mothers who reported having felt that the pandemic had a negative emotional impact during postpartum presenting lower levels of self-compassion and mindful parenting and higher levels of depressive and anxious symptoms (see Table 2).

Table 2

Correlations, Descriptive Statistics and Comparative Analyses of Self-Compassion, Mindful Parenting, Postpartum Depressive Symptoms and Postpartum Anxious Symptoms as a function of Mothers' Perceived Emotional Impact of the Pandemic

	Study variables	1	2	3	*M* (*SD*)	Perceived emotional impact of the pandemic (yes) *M* (*SD*)	Perceived emotional impact of the pandemic (no) *M* (*SD*)	Comparative analyses		
								F	*p*	η^2_p
1	Self-compassion	-			3.29 (0.70)	3.22 (.70)	3.57 (.63)	19.36	**< .001**	.04
2	Mindful Parenting	.57*	-		110.02 (11.80)	109.20 (11.95)	113.21 (10.65)	18.67	**< .001**	.02
3	Postpartum Depressive Symptoms	-.60*	-.48*	-	8.43 (5.06)	9.31 (5.06)	5.01 (3.28)	130.05	**< .001**	.12
4	Postpartum Anxious Symptoms	-.56*	-.54*	.66*	111.27 (21.49)	114.58 (20.94)	98.42 (18.56)	99.15	**< .001**	.09

Correlations between the study variables are presented in Table 2. Self-compassion was significantly and positively correlated with mindful parenting and negatively correlated with depressive symptoms and anxious symptoms; mindful parenting was significantly and negatively correlated with depressive symptoms and anxious symptoms; and depressive symptoms were significantly and positively correlated with anxious symptoms. The correlation between mindful parenting and depressive symptoms had a medium effect size, and all other correlations were strong.

The Indirect Effect of Mothers' Self-compassion on Mindful Parenting through Postpartum Depressive and Anxious Symptoms

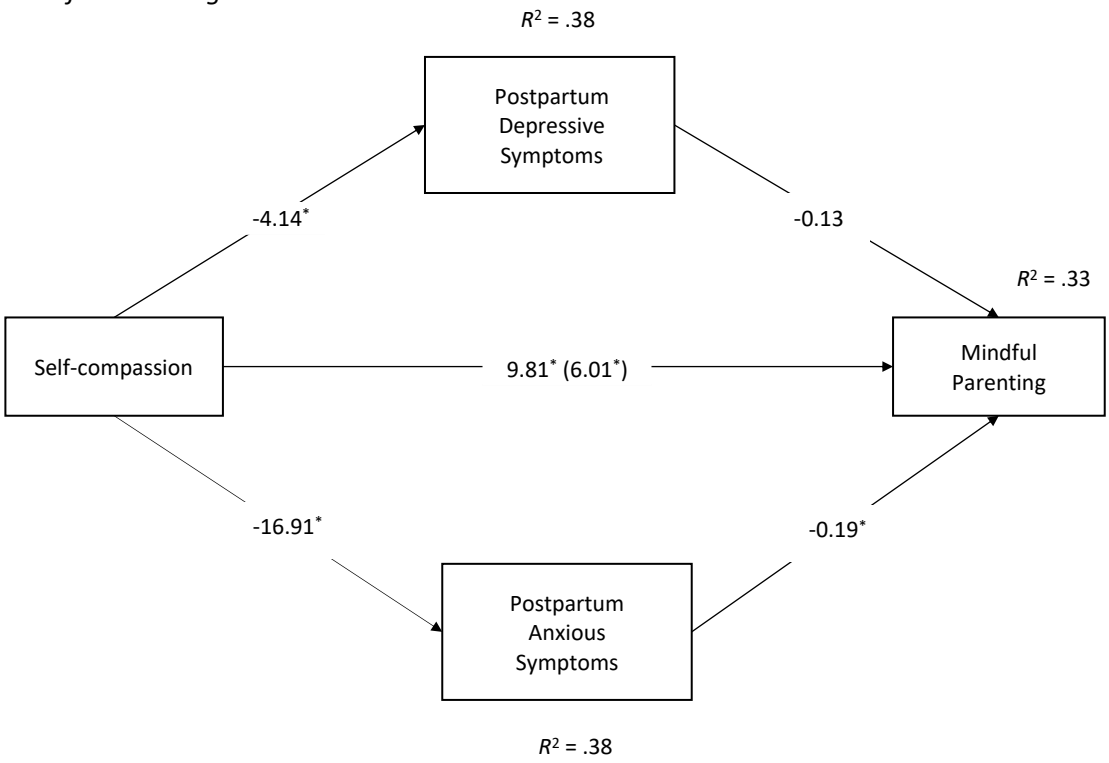
Prior to mediation analyses, Pearson's and point-biserial correlations between sociodemographic, clinical, and COVID-19 variables and PPDS, PPAS, and mindful parenting were analyzed to determine whether any variable should be introduced in the model as a covariate.

Significant correlations were found between babies' ages and anxious (r = .094, p = .003) and depressive symptoms (r = .140, p < .001); mothers' education (0 = basic and secondary education and 1 = higher education) and anxious (r_{pb} = -.131, p < .001) and depressive symptoms (r_{pb} = -.154, p < .001); household monthly income (0 = less than 2000€ and 1 = 2000€ or above) and anxious (r_{pb} = -.116, p < .001) and depressive symptoms (r_{pb} = -.082, p = .010); current psychological or psychiatric treatment (0 = no; 1 = yes) and anxious (r_{pb} = .110, p = .001) and depressive symptoms (r_{pb} = .134, p < .001); parity (0 = primiparous and 1 = multiparous) and anxious symptoms (r_{pb} = -.217, p < .001); and mindful parenting (r_{pb} = -.064, p = .045). Therefore, babies' age, mothers' education, household monthly income, current psychological and/or psychiatric treatment and parity, and were introduced as covariates into the regression model.

As presented in Figure 1, self-compassion was significantly and negatively associated with depressive symptoms (b = -4.14, p < .001) and, along with the covariates, explained 37.56% of its variance. Self-compassion was significantly and negatively associated with anxious symptoms (b = -16.91, p < .001) and, along with the covariates, explained 37.94% of its variance. The total model explained 33.24% of the mindful parenting variance. Although depressive symptoms were not significantly associated with mindful parenting (b = -0.13, p = .114), higher levels of self-compassion (b = 6.01, p < .001) and lower levels of anxious symptoms (b = -0.19, p < .001) significantly predicted higher levels of mindful parenting. All paths for the full process model, as well as unstandardized regression coefficients, are illustrated in Figure 1.

Figure 1

Statistical Diagram of the Mediation Model for the Presumed Influence of Postpartum Depressive Symptoms and Postpartum Anxious Symptoms on the Association between Self-Compassion and Mindful Parenting



Note. Path values represent unstandardized regression coefficients. In the arrow linking self-compassion and mindful parenting, the value outside the parentheses represents the total effect model of self-compassion on mindful parenting after the inclusion of the mediators. The value in parentheses represents the direct effect from the bootstrapping analysis of self-compassion on mindful parenting after the inclusion of the mediators. Babies' age, household monthly income, mothers' education, parity, and current psychological and/or psychiatric treatment were introduced as covariates into the regression model. For simplicity, these covariates are not shown in the figure.

*$p < .001$

While the total effect (9.81; 95% BCaCIs = 8.92/10.70) and direct effect (6.01; 95% BCaCIs =4.95/7.07) of self-compassion on mindful parenting were significant, the indirect effect was not found through depressive symptoms (estimated value = 0.55 (95% BCaCIs = -0.13/1.20)), as presented in Table 3. On the other hand, self-compassion was found to be indirectly associated with mindful parenting through anxious symptoms, with an estimated value of 3.25 (95% BCaCIs = 2.50/4.12) (see Table 3).

Table 3

Indirect Effects of Self-Compassion on Mindful Parenting Through Postpartum Depressive Symptoms and Postpartum Anxious Symptoms

Indirect effects	**Point estimate**	***SE***	**95% BCaCI lower/upper**
Self-compassion → Postpartum Depressive Symptoms → Mindful Parenting	0.55	0.34	-0.13/1.20
Self-compassion → Postpartum Anxious Symptoms → Mindful Parenting	3.25	0.41	**2.50/4.12**

Discussion

Overall, the present study indicated that mothers who reported having felt that the pandemic had a negative emotional impact during their postpartum period (79.5%) presented lower levels of self-compassion and mindful parenting, and higher levels of PPDS and PPAS. Regarding the mediation model, higher levels of self-compassion were related to higher levels of mindful parenting, and this association was mediated by lower levels of PPAS.

First, most mothers reported having felt a negative emotional impact from the pandemic during the postpartum period (79.5%). These mothers presented lower levels of self-compassion and mindful parenting than mothers who reported not having felt a negative emotional impact from the pandemic. One possible explanation for these mothers having lower levels of self-compassion is that their threat regulation system might be more easily activated due to the pandemic. When the threat system is activated, it prevents mothers from activating the affiliation/soothing system, which would enable them to feel calm, content, and soothed (Gilbert, 2009) and adopt a kind and compassionate attitude toward themselves. Additionally, having their threat system more easily activated may lead mothers to focus their attention on threats, fears, and their own negative emotions, which may not allow them to disconnect from their own thoughts and be fully attentive to their infant's signals, emotions and needs. Consequently, these mothers may be less able to respond sensitively to their baby, to regulate themselves in mother-infant interactions, and to adopt a mindful parenting approach (Duncan et al., 2009).

Additionally, mothers who reported felt a negative emotional impact from the pandemic during the postpartum period presented higher levels of PPDS and PPAS, which is in accordance with other recent studies, suggesting that changes and uncertainty triggered by the pandemic and pandemic-related measures, may have had a psychological impact on the population's mental

well-being, and that is associated with an increase of psychopathological symptoms, such as depressive and anxious symptoms (e.g., Killgore et al., 2020; Lima et al., 2020).

Second, our results indicated that higher levels of self-compassion predicted higher levels of mindful parenting and that this association was mediated by lower levels of PPAS. As expected and consistent with previous literature (e.g., Moreira et al., 2016), self-compassion was positively associated with mindful parenting. As described in the present study, self-compassion is a multicomponent construct comprised of three interactive bipolar components: self-kindness versus self-judgment, mindfulness versus overidentification, and common humanity versus isolation (Neff et al., 2019). Therefore, our results may suggest that mothers who are more self-compassionate have higher levels of self-kindness, so they adopt a more caring and supportive attitude toward themselves, their failures, and their suffering, including in their parenting. This may facilitate the adoption of a kinder way of parenting since they are less critical regarding their parenting behaviors (e.g., Gouveia et al., 2016). Additionally, self-compassionate mothers have a greater capacity to be aware of their own painful experiences in a balanced manner and adopt a more mindful and accepting attitude toward their emotions and thoughts, which may help them to be more easily aware of their infant's emotional states and behaviors and then provide them responsive and sensitive responses in a mindful way. Furthermore, it can be stated that self-compassionate mothers have a greater sense of common humanity, which can help them to recognize that all human beings are imperfect, fail, and suffer and to accept, in a nonjudgmental way, their limitations as mothers. This may facilitate the adoption of a more accepting and nonjudgmental approach in their parenting (e.g., Moreira et al., 2016). Thus, all these self-compassion components may facilitate the adoption of a mindful approach to parenting.

Moreover, self-compassion was associated with lower psychopathological symptoms, such as PPDS and PPAS, which is in accordance with previous studies during the postpartum period (e.g., Monteiro et al., 2019). This result may be explained by several factors. First, mothers with higher levels of self-compassion are better able to activate the soothing system of affect regulation (Gilbert, 2014), which may help them to better regulate their negative emotions and, for instance, feel less negatively affected by the challenges of parenting (e.g., Gouveia et al., 2016). Additionally, it can be hypothesized that self-compassionate mothers cope with challenging emotions with a greater degree of understanding, self-directed care, and support, which may lead them to experience lower levels of psychopathological symptoms (Pauley & McPherson, 2010). In addition, self-compassionate mothers are kinder to themselves and experience a higher sense of common humanity, which may lead them to feel less isolated, especially during a pandemic context, and less self-judgmental (Singh & Sharma, 2020), which may prevent them from experiencing depressive and anxious symptoms.

Although self-compassion is positively associated with mindful parenting and negatively associated with depressive and anxious symptoms, our results indicated that the indirect effect of self-compassion on mindful parenting happens only through PPAS and not through PPDS. Therefore, it seems that having higher levels of self-compassion may be associated with a decrease in anxious symptoms related to parenting and mother-infant relationship during the postpartum period, which, in turn, facilitates the adoption of a mindful approach in parenting but not a decrease in maternal depressive symptoms. These results can be understood considering several issues.

First, a postpartum period-specific scale was used to measure mothers' anxious symptoms; therefore, specific postpartum issues were assessed, such as competence and attachment anxieties, infant safety and welfare anxieties, practical baby care anxieties and psychosocial adjustment to motherhood (Fallon et al., 2016). In contrast, the EPDS was used to assess depressive symptoms, which is a measure that only contains general questions to assess mothers' depressive levels. The difference between the specificity levels of these measures may have influenced the results.

Second, research has suggested a distinct neurobiological pattern for anxious and depressive symptoms when they occur during the peripartum period compared with other times during a woman's life (Pawluski et al., 2017). Regarding anxious symptoms, from an evolutionary perspective, it can be stated that individuals who could quickly detect potential threats and react automatically were more likely to survive and adopting a reactive and anxious parenting style may have helped our ancestors survive and protect their children. This fast and automatic reaction to perceived threats was clearly advantageous in the evolutionary past, when life was characterized by several threats (LeDoux, 1996). Currently, we may suppose that a pandemic context can be felt as an environment with great threats for mothers, leading them to feel more anxious in their parenting and in taking care of their vulnerable infants. In a different way, depressive symptoms are associated with a lack of cognitive control over emotional states (Messina et al., 2016), which may result in a ruminative way of thinking, lack of energy, inability to concentrate, feelings of worthlessness or excessive guilt, and a loss of pleasure or interest in things a person used to enjoy (American Psychological Association [APA], 2014). During the pandemic, it seems that self-compassion facilitates the adoption of a mindful parenting approach by specifically "slowing down" the threat response of the mother's brain, especially those related to parenting situations and mother-infant relationships, instead of reducing individual symptoms, such as maternal depressive symptoms.

Finally, in general, anxious, and depressive symptoms may be distinguished considering time orientation; that is, it seems that mothers who experience anxious symptoms are future-

oriented and focus on threats (APA, 2021), whereas depressive mothers are tied to past events (Dobson, 1985). It may be hypothesized that during a pandemic, especially during a period of major pandemic-related restrictions, self-compassion may help mothers implement a more accepting, emotionally attuned and compassionate approach to parenting by 1) helping mothers be in the present moment instead of worrying about the future; 2) by promoting a more accepting attitude toward their failures as mothers; and 3) by reducing anxieties related to practical infant care tasks and their protection, more than helping them focus on past events.

Limitations

This study presents several limitations that should be mentioned. First, the sample was collected online, which may compromise the representativeness of the sample. This method of data collection if often associated with self-selection bias because participants who participated in the study were likely to be more motivated to participate and interested in parenting and mental health subject, than those in the general population. Second, this study included only mothers, which limits the generalization of these results to fathers. Third, the validity of the results can be compromised because only self-reported instruments were used to assess the study variables. Participants may be influenced by social desirability and their answers may not reflect their feelings or thoughts in a reliable way. Forth, a postpartum period-specific scale was used to measure mothers' anxious symptoms and, in contrast, a measure that only contains general questions was used to assess mothers' depressive levels, which may have influenced the results. Finally, this study has a cross-sectional design, therefore, a causal relationship cannot be inferred between self-compassion and mindful parenting. Future longitudinal studies would be needed to better understand if self-compassion effectively promotes the development of a mindful parenting approach and whether maternal psychopathological symptoms may interfere in this relationship over time.

Implications

Despite limitations previously presented, we may draw some suggestions and implications to several areas. First, regarding future research, the present study provides an innovative contribution to research in the field of the postpartum period during the COVID-19 pandemic, contributing to the understanding of the interrelationship between self-compassion, mental health, and parenting, during the pandemic. Future research may focus, for instance, in other mechanisms, through which self-compassion may exert an effect in mindful parenting. Also, other effective research methodologies should be considered, for instance qualitative, and they should be compared with mixed- or quantitative methods. For instance, Online Photovoice (OPV; Tanhan

& Strack, 2020) seemed to be a very useful and effective qualitative research methodology, already used during the current pandemic (e.g., Tanhan, 2020). Moreover, collaborative efforts such as community-based participatory research (CBPR) methods can be used to explore the causes and effects of the negative emotional impact of the COVID-19 pandemic on self-compassion and mindful parenting, in collaboration with populations most impacted by it, such as postpartum mothers (e.g., Dari et al., 2021).

Second, regarding implications for professionals and mental health services, our results indicated that, in clinical practice, it is relevant to promote mothers' self-compassion since this psychological resource may help them feel less anxious during the postpartum period and to adopt a mindful way of parenting toward their infant. The results highlighted the need of mental health professionals distinguish anxious from depressive symptoms, and to provide appropriate treatments that target specific symptoms and etiologies (Milgrom et al., 1999). Also, it seems important that psychological interventions focus on individual-related variables, such as on managing anxious symptomatology and promoting self-compassion, since they have influence on parenting-related variables. Compassion-based interventions applied to the postpartum period (e.g., Cree, 2015; Potharst et al., 2017) may be particularly important in reducing PPAS and promoting mindful parenting skills and should be available to postpartum mothers during and beyond the pandemic. Currently, given the pandemic constraints, the use of e-mental health will improve care access (Chen et al., 2021) and may be an important alternative to conventional interventions. The intervention developed by Potharst et al. (2019), a web-based mindful and compassionate parenting intervention, may be particularly important in promoting self-compassion, reducing maternal psychopathology, and promoting mindful parenting skills.

To conclude, these results corroborate the idea that self-compassion is a healthy way to relate to oneself, with impact in maternal mental health, and then, in parenting practices. Therefore, low-cost, and easily accessible programs (e.g., Potharst et al., 2019) may be implemented in primary healthcare services as early interventions focused on promoting self-compassion skills, to promote maternal mental health and a mindful and compassionate parenting, to all mothers during the postpartum period.

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Consent to participate: Informed consent was obtained from all individual participants included in the study.

Data availability: The data that support the findings of this study are not publicly available because them containing information that could compromise participant's privacy/consent. The data are available on reasonable request from the corresponding author [DVF].

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Estudo Empírico V

Mindful parenting interventions for the postpartum period: Acceptance and preferences of mothers with and without depressive symptoms

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Mindful parenting interventions for the postpartum period: Acceptance and preferences of mothers with and without depressive symptoms

Abstract

Objectives: This study aims to examine postpartum Portuguese mothers' emotional experiences, help-seeking behaviours, and perceived barriers to seeking help. It also intends to analyse mothers' knowledge and acceptability of mindful parenting interventions and their preferences concerning the characteristics of these interventions. Differences between mothers with positive and negative screenings for depression were explored for all variables. **Methods**: Participants were recruited online and answered several questions aimed at assessing their emotional experience, help-seeking behaviours, perceived barriers to seeking help, knowledge about mindful parenting, acceptability of parenting and mindful parenting interventions during the postpartum period, and preferences concerning those interventions. They also completed the Edinburgh Postnatal Depression Scale. The sample comprises 599 mothers with a child aged 0-12 months (*M*age = 5.28 months). **Results**: Approximately 36% of mothers screened positively for depressive symptoms, and 24.2% thought about seeking help or actually sought help. Structural barriers were the most cited reasons for not seeking help. Approximately 95% of mothers felt that participating in a mindful parenting intervention during the postpartum period would be useful. Concerning mothers' preferences, most mothers preferred a weekly frequency (85.0%) and an average of 10 sessions (48.6%) of 45-60 minutes in length (52.6%). Learning how to better understand the baby's emotions and behaviours and learning new tools to better cope with parenting stress were among the intervention contents considered most useful. **Conclusions**: Our findings support postpartum mothers' acceptability of mindful parenting interventions and provide important insights concerning specific features to consider and content to include in those interventions.

***Keywords*:** Mindful parenting interventions; Postpartum; Help-seeking behaviours; Perceived barriers to seeking help; Acceptability; Preferences

The postpartum period is usually considered a period of intense happiness, characterized by the mother's desire to fall in love with the infant and constantly be near him or her (Eckstein et al., 2019). Nevertheless, it is also a challenging time with a negative side (World Health Organization [WHO], 1998). Becoming a mother requires several adjustments on physical, psychological and social levels (Dol et al., 2019; Walker et al., 2019): the body goes through rapid changes; infant care involves new tasks, doubts, and constant attention; the intimate relationship usually changes (Drozdowskyj et al., 2019; Nonnenmacher et al., 2016; WHO, 1998). All of these challenges increase postpartum women's vulnerability to developing emotional and psychological disturbances (Muzik et al., 2017; WHO, 1998) that can have negative effects on mother-infant relationships (Matthies et al., 2020) and children's development (Conroy et al., 2012; Fredriksen et al., 2019).

Developing a healthy relationship with the infant is the central and most important psychological process of the puerperium (Brockington, 2004). Parent-infant bonding (i.e., the establishment of an emotional relationship between parent and infant) (Farre-Sender et al., 2018) allows babies to start establishing a relationship with their parents from birth, and it also plays an important role in child social, emotional and cognitive development (Mascheroni & Ionio, 2019; Rossen et al., 2016). Nevertheless, it is well known that mothers who present emotional difficulties (e.g., depressive symptoms, anxiety) have greater difficulty engaging in sensitive and responsive parenting (Fernandes et al., 2020). In addition, they are at greater risk of negative parenting behaviours, such as hostility, lower sensitivity, and dysfunctional interactions, in the first 12 months after birth (Binda et al., 2019; Goodman et al., 2017; Heinisch et al., 2019). For instance, maternal depressive symptoms have been shown to compromise mother-infant co-regulation capacities and to affect maternal sensitivity (Dau et al., 2019). Moreover, depressive symptoms have been associated with lower maternal involvement with the infant (Hakanen et al., 2019) and less warm responsiveness (Mitchell et al., 2019). Similarly, maternal anxiety has been associated with lower levels of sensitive responsivity, less positive maternal emotional tone (Nicol-Harper et al., 2007), lower levels of mother-infant bonding (Nolvi et al., 2016; Tietz et al., 2014), and less positive engagement of infants (Reck et al., 2018).

Even when mothers do not experience emotional difficulties, the simple fact of not knowing how to deal with the infant may decrease the quality of the parent-infant interactions (Chung et al., 2018). According to Eckstein et al. (2019), approximately 10% of all mothers report feeling difficulties bonding with their infant, which can lead to long-term disturbances of the mother-child relationship and the child's social and emotional development (Reck et al., 2016). Nevertheless, women within the first 12 months after birth often do not seek professional help for postpartum difficulties (Fonseca et al., 2015; Rouhi et al., 2019); in fact, they seek help even

less frequently if they have poor emotional health, which reduces their involvement in postnatal care (Walker et al., 2019). Help-seeking behaviour could be defined as a decision-making process in which action is preceded by recognizing a problem and a conscious decision to do something about it (Cornally & McCarthy, 2011). Generally, help-seeking behaviours may include bringing up concerns to a professional (e.g., psychologist), contacting early intervention programmes, and enrolling in services (Marshall et al., 2019). There are three types of help-seeking: formal help-seeking (e.g., consulting a mental health provider), informal help-seeking (e.g., relying on social support systems) and self-help (Rickwood et al., 2005). In Portugal, during the perinatal period, women are routinely followed in obstetric care and during appointments with general practitioners. Although mental health professionals are freely available in the major public maternity hospitals, general hospitals and some primary care services, there are no screening procedures implemented to improve case identification, so it is generally dependent on women's help-seeking behaviour (Fonseca & Canavarro, 2017).

Therefore, in addition to understanding the mothers' emotional experience during the postpartum period, it is essential to better understand barriers to seeking help to ensure suitable services during this period (Rouhi et al., 2019). Several studies have identified perceived barriers that mothers considered to prevent them from seeking professional help for their emotional problems, namely, attitudinal (e.g., stigma), knowledge (e.g., mental health literacy), and practical/structural barriers (e.g., financial constraints) (Dennis & Chung-Lee, 2006; Fonseca et al., 2015; O'Mahen & Flynn, 2008). A systematic review developed by Dennis and Chung-Lee (2006), for example, suggested that postpartum women do not proactively seek help, and the main barrier is the inability to disclose their feelings, together with perceived social pressures, shame and fear of being labelled mentally ill. Several descriptive and qualitative studies have also indicated that most pregnant and postpartum women consider it difficult to speak about their unhappiness or discomfort and that people would not understand their feelings, referring to the following as the main barriers to seeking help: a lack of time, institutional procedures, an inability to afford care and a lack of childcare (Lara et al., 2014; Loudon et al., 2016). According to these studies, mothers particularly valued the information received from peers or family members, even though they experienced a fear of judgement. Moreover, mothers described a feeling of pressure to be "good mothers" as a barrier to seeking help. More recently, a study conducted with women in the postpartum period showed that the most important barriers to seeking help were fear, stigma, a willingness to seek help, and the logistics of attending an appointment (Ford et al., 2019).

In Portugal, a study conducted by Fonseca et al. (2015) indicated that only 13.6% of women with perinatal depression seek help for their emotional problems, identifying mainly knowledge barriers, namely, knowledge of the nature of the mental health problems and treatment options.

Another study conducted by Silva et al. (2018) suggested that women with clinically relevant psychopathological symptoms reported less positive attitudes towards help-seeking and preferred informal to formal sources of help; furthermore, stigma was the most prevalent perceived barrier.

Even when mothers overcome their perceived barriers to seeking help and actually seek professional help, and despite the evidence regarding the crucial role of postpartum interventions specially focused on mother-infant interaction, most of the existing postpartum interventions have been focused on maternal psychopathology or psychopathological symptoms and not on improving the quality of mother-infant interaction (Horowitz et al., 2019; Milgrom & Holt, 2014; Reck et al., 2016). It is well known that early interventions focused on promoting the quality of mother-infant interactions have positive effects on maternal sensitivity (Borghini et al., 2014; Horowitz et al., 2019; Slade et al., 2019), may serve as a resilience factor towards later emotional problems by supporting the development of self-regulation skills (Faure et al., 2017), and can effectively promote positive changes in the mother-infant relationship (Coo et al., 2018). In this context, one protective psychological resource that can be beneficial for parents experiencing postpartum challenges is mindfulness. Mindful parenting pertains to the application of mindfulness to the parenting context and can be defined as a way of parenting that involves bringing mindful awareness to parent-child interactions (Bögels & Restifo, 2014). Therefore, mindful parenting reflects the parents' capacity to interact with the child in a more accepting, emotionally attuned, and compassionate way (Coatsworth et al., 2018), and it encompasses several aspects, such as listening with full attention, self-regulation in the parenting relationship, emotional awareness of the child, compassion for the child and a non-judgemental acceptance of parental functioning (de Bruin et al., 2014; Duncan et al., 2009; Moreira & Canavarro, 2017). The quality of the parent-child relationship can be improved through the promotion of these dimensions (Duncan et al. 2009).

Several parenting interventions designed to promote mindfulness (i.e., mindful parenting interventions) have been shown to be effective in promoting mindful parenting skills, parents' mental health and positive parent-child relationships (Meppelink et al., 2016; Rayan & Ahmad, 2016; Sairanen et al., 2019). These interventions seem to allow parents to become more present in the moment with their infant, more resilient to stress and negative affect, and more able to choose appropriate responses to their child, once parents embody a set of attitudes and insights rather than a set of skills (Duncan et al., 2009). Mindful parenting interventions have been applied in several stages of life, including in the postpartum period (e.g., Potharst et al., 2017; Zeegers et al., 2019). For instance, the Mindful with Your Baby Training is a mindful parenting group training for mothers and babies that employs the same general meditation exercises and similar

attitudinal foundations as the mindful parenting training (Bögels & Restifo, 2014), Mindfulness-Based Cognitive Therapy (MBCT), and Mindfulness-Based Stress Reduction (MBSR) programmes, but with adaptations to the presence of the babies in the session and the themes related to the mother-infant relationship. Essentially, this intervention teaches mothers tools that they can use to address stressful emotions, be more attentive and responsive to their own needs and their babies' needs (Potharst et al., 2017).

Nevertheless, and given the recent characteristics of mindful parenting interventions applied during the postpartum period, it is of utmost importance to understand the acceptability and preferences about those kinds of interventions during this period. Therefore, the current study aims to examine postpartum Portuguese mothers' emotional experiences, help-seeking behaviours, and perceived barriers to seeking help. It also intends to analyse their knowledge and acceptability of mindful parenting interventions [i.e., their beliefs of whether an intervention is appropriate for them and their child and whether the programme meets their expectations of what it should involve; Kazdin (1980)] and their preferences concerning the main characteristics of these interventions. Because psychopathology symptoms may influence mothers' help-seeking behaviours and their acceptability of psychological interventions (e.g., Silva et al., 2018), differences between mothers with positive and negative screenings for depression were also explored for all variables.

Method

Participants

The sample included 599 Portuguese mothers of babies aged between zero and twelve months old. Most mothers were living in a nuclear family (i.e., a family with two parents and their children), had completed higher education and were employed. The sociodemographic and clinical characteristics of the mothers and their infants are presented in Table 1.

Table 1

Sociodemographic and Clinical Characteristics of the Sample and Comparative Analyses as a Function of Mothers' Risk on the EPDS

	Total (*n* = 599)	EPDS-positive group (*n* = 215)	EPDS-negative group (*n* = 384)	t/χ^2	*p*	d/Cramer's *V*
Mothers' characteristics						
Mothers' age (years) *M*(*SD*); range	32.82 (4.70); 18-50	32.62 (5.03); 18-50	32.93 (4.52); 20-46	.79	.431	.06
Marital status *n* (%)						
Living with a partner	531 (88.6)	187 (87)	344 (89.6)	.93	.335	.04
Not living with a partner	68 (11.4)	28 (13.0)	40 (10.4)			
Type of family *n* (%)						
Single-parent	15 (2.5)	10 (4.7)	5 (1.3)	7.03	.071	.11
Nuclear	526 (87.8)	182 (84.7)	344 (89.6)			
Reconstituted	6 (1.0)	2 (0.9)	4 (1.0)			
Extended	52 (8.7)	21 (9.8)	31 (8.1)			
Number of children *M*(*SD*); range	1.38 (0.64); 1-5	1.33 (0.59); 1-4	1.41 (0.66); 1-5	1.36	.174	.13
Education *n* (%)						
Basic or secondary education	160 (26.7)	64 (29.8)	96 (25.0)	1.60	.206	.05
Higher education	439 (73.3)	151 (70.2)	288 (75.0)			
Employment status *n* (%)						
Employed	496 (82.8)	168 (78.1)	332 (86.5)	6.91	.009	.11
Unemployed, housewives, full-time mothers, students	103 (17.2)	47 (21.9)	52 (13.5)			
Household monthly income* *n* (%)						
Less than 2000€	441 (73.6)	170 (79.1)	271 (70.6)	5.12	.024	.09
2000€ or above	158 (26.4)	45 (20.9)	113 (29.4)			
Area of residence *n* (%)						
Urban	438 (73.1)	153 (71.2)	285 (74.2)	.66	.418	.03

Rural	161 (26.9)	62 (28.8)	99 (25.8)			
Infants' characteristics						
Age (months) *M*(*SD*); range	5.28 (3.13); 0-12	5.27 (3.14); 0-12	5.29 (3.13); 0-12	.08	.940	.01
Sex *n* (%)						
Girls	282 (47.1)	99 (46.0)	183 (47.7)	.14	.705	.02
Boys	317 (52.9)	116 (54.0)	201 (52.3)			
Clinical characteristics						
Desired pregnancy *n* (%)						
Yes	585 (97.7)	210 (97.7)	375 (97.7)	.00	.989	.001
No	14 (2.3)	5 (2.3)	9 (2.3)			
Planned pregnancy *n* (%)						
Yes	452 (75.5)	152 (70.7)	300 (78.1)	4.11	.043	.08
No	147 (24.5)	63 (29.3)	84 (21.9)			
Current psychological problems *n* (%)						
Yes (psychological and/or psychiatric)	36 (6.0)	25 (11.6)	11 (2.9)	18.74	< .001	.18
No	563 (94.0)	190 (88.4)	373 (97.1)			
Current psychological treatment *n* (%)						
Yes	35 (5.8)	20 (9.3)	15 (3.9)	7.30	.007	.11
No	564 (94.2)	195 (90.7)	369 (96.1)			
Method of conception *n* (%)						
Spontaneous	560 (93.5)	204 (94.9)	356 (92.7)	1.07	.301	.04
Medically assisted	39 (6.5)	11 (5.1)	28 (7.3)			
Obstetric complications *n* (%)						
In mothers	177 (29.5)	71 (33.0)	106 (27.6)	1.94	.163	.06
In infants	40 (6.7)	16 (7.4)	24 (6.3)	.31	.575	.02

*The Portuguese minimum wage in 2019 was 600€

Procedure

The participants were recruited online between December 2018 and February 2019 through a data collection website (LimeSurvey®) placed on the website of the Faculty of Psychology and Educational Sciences, University of Coimbra. They were invited to participate in the study through social networks, including Facebook pages about parenting issues after the birth of a child and parenting forums. A Facebook page about parenting and mental health during the postpartum period was specifically created for the study. Several advertisements were posted on that page as well as on other Facebook pages and social networks explaining the main goals of the study, presenting the inclusion criteria, and containing the web link to the survey hosted in LimeSurvey®. The page was shared through e-mail, through unpaid cross-posting, and through paid boosting campaigns. The participants who clicked on the link were then given information about the study, namely, a description of the objectives, the inclusion criteria, and the ethical statement of the study. The participants were informed that their participation was voluntary, anonymous and that no identifying information would be collected. Only those who agreed to the study conditions and who provided their informed consent by clicking on the option "I understand and accept the conditions of the study" completed the assessment protocol. The participants were eligible to participate in the study if they fulfilled the following inclusion criteria: (i) being Portuguese; (ii) being over 18 years old; and (iii) having at least one child between zero and 12 months old.

Of the 689 completed questionnaires, one mother was excluded because she did not give her informed consent, 48 mothers were excluded because of missing information in one or more important sociodemographic variables, 18 mothers were excluded because of their nationality (they were not Portuguese), 14 mothers were excluded because their babies were more than 12 months old, five mothers were excluded because some questions were incorrectly answered (e.g., responses out from the range of possible answers in the question pertaining to number of preferred sessions), and four men were excluded due to their low representation in the survey.

Measures

Sociodemographic and Clinical Information

The first part of the web survey included the standard sociodemographic information (e.g., age, marital status, educational level) and clinical data (e.g., obstetric information and prior history of psychopathological problems) of mothers and infants.

Depressive Symptoms

The Portuguese version of the Edinburgh Postnatal Depression Scale (EPDS; Cox et al., 1987; Figueiredo, 1997) was used to screen for the presence of depressive symptoms. The EPDS is a

widely used 10-item screening scale for antepartum and postpartum depression, in which women are asked to rate their emotions (e.g., sadness, anxiety) over the previous seven days using a four-point Likert scale. In the Portuguese validation studies, a score of 10 or higher indicates a possible depressive disorder (Figueiredo, 1997). Based on this cut-off score, women were assigned to two groups: women with a positive screening for depressive symptoms (i.e., the EPDS-positive group) and women with a negative screening for depressive symptoms (i.e., the EPDS-negative group). In our sample, Cronbach's alpha was .90.

Emotional Experience During the Postpartum Period

Mothers were asked about general and emotional difficulties they may feel during the postpartum period. First, a checklist of general difficulties was presented: "Since the baby was born, have you felt any of the following: a) difficulties in your marital relationship, b) difficulties in familiar relationships, c) difficulties in providing baby's care, d) difficulties dealing with emotions, e) a sense of incompetence as a mother/father, and f) stress" (participants should mark all options that apply to their case). Then, they were asked the following question: "If you have experienced any of the difficulties presented in the previous question, have you ever felt that those difficulties interfered with your parental role?" (yes or no). To specifically assess mothers' emotional difficulties, mothers were asked the following two questions: "Since the baby was born, have you felt more sad, anxious or stressed than usual?" (yes or no); and "If you answered "yes" in the previous question, have you considered the possibility that your feeling more sad, anxious or stressed is related to difficulties in dealing with your baby and/or your parental role?" (yes or no).

Help-seeking Behaviours

To assess mothers' help-seeking behaviours, questions were developed based on the existing literature (Cauce et al., 2002; Fonseca et al., 2015; McGarry et al., 2009). Specifically, participants were asked the following two questions: "Have you ever thought about seeking help or have you actually sought help because of the difficulties dealing with your baby and/or the parental role?" (yes or no) and "What kind of help did you ask for?" (family member/friend *vs.* medical *vs.* psychological *vs.* other).

Perceived Barriers to Help-seeking Behaviours

To evaluate perceived barriers, participants answered an adapted version of the Barriers Scale (O'Mahen & Flynn, 2008), which takes into consideration the specific context of postpartum and the literature review (e.g., Fonseca et al., 2015). This scale is constituted by a set of items on attitudinal, knowledge and practical/structural barriers, and mothers were questioned about the extent to which each item (barrier) would prevent them from seeking professional assistance for their emotional/psychological problems during the postpartum period. The 13 items included

attitudinal (e.g., “Be afraid of what my family and/or friends might think of me for attending a psychological intervention”), knowledge (e.g., “Do not know if my problems are a reason to ask for help”), and structural/practical (“Not be able to afford treatment”) barriers. Items were assessed using a three-point scale (0 = *Does not apply to me*; 1 = *Moderately applies to me*; 2 =*Very much applies to me*). In our sample, Cronbach's alpha was .80.

Knowledge about Mindful Parenting

Two questions were developed to evaluate mothers’ knowledge about mindful parenting (“Have you ever heard about mindful parenting or conscious parenting?” and “Do you think that you apply the principles of mindful parenting in your relationship with your baby?”); these questions were answered in a “yes” or “no” format.

Acceptability of Parenting Interventions

The acceptability of mindful parenting interventions was inferred by mothers’ responses on two questions regarding the perceived utility of those interventions. The first question was “Do you think it would be useful to participate in an intervention that aims to develop mindfulness skills in your relationship with your baby (e.g., a greater ability to be present when interacting with the baby to understand your emotions and your baby's emotions)?”; this question was answered in a “yes” or “no” format. The second question was “Do you think that an intervention that aims to develop mindfulness skills in your relationship with your baby would be useful?” The following options were provided: a) for all parents in the postpartum period or b) only for parents with moderate or high levels of parenting stress. In addition, the acceptability of psychological parenting interventions was also inferred by mothers’ report of their perceived utility of those interventions (through the question “Would you consider it useful to have psychological interventions that help parents better deal with any difficulties they feel in their relationship with their babies and/or their role as fathers/mothers in the postpartum period?” (yes or no)) and their availability to participate in them (“Would you be available to participate in a psychological intervention programme that would help you better deal with parenting stress in the postpartum period?” (yes or no)).

Preferences

To evaluate mothers’ preferences (i.e., preferred features of a parenting intervention for the postpartum period), a set of questions was developed based on previous literature about parenting interventions (Mejia et al., 2015; Metzler et al., 2012) and the postpartum period (e.g., Goodman, 2009). Mothers were asked about several issues, the first of which was the dissemination of the intervention programme. A checklist was presented with the information they considered essential to increase their likelihood of participation (“What information do you think it would be essential to receive about the programme, in order to promote your

participation?"; e.g., who built the programme). Furthermore, a set of options was presented regarding the probability of participating in the intervention if information about it were provided through different means (e.g., psychologist, internet, friends), answered according to a three-point scale: *very unlikely* vs. *fairly unlikely* vs. *very likely*. The second issue addressed characteristics of the intervention, in terms of format and content. Format preferences included general features, such as the following: the number of sessions (between one and ten); frequency (daily *vs.* weekly *vs.* monthly); length of each session (between 30 and 45 minutes *vs.* between 45 and 60 minutes *vs.* between 60 and 90 minutes *vs.* between 90 and 120 minutes); preference regarding baby's caregiver during sessions (take the baby with me *vs.* leave him/her at home/nursery); preferred moment to initiate participation in an intervention programme (between one and twelve months of the baby's birth); and the preferred location to participate in an intervention program (healthcare centre *vs.* maternity *vs.* other place). The preferences for the content included the following: (1) the perceived usefulness of informational and interactive features of a parenting intervention (e.g., being able to talk to a psychologist about doubts and concerns related to the baby and the parent-baby relationship), assessed using a five-point scale (0 = *Not at all useful*; 1 = *Slightly useful*; 2 = *Moderately useful*; 3 = *Very useful*; 4 = *Extremely useful*); and (2) the perceived usefulness of specific intervention content (e.g., information about how to better understand the baby's emotions), assessed using a five-point scale (0 = *Not at all useful*; 1 = *Slightly useful*; 2 = *Moderately useful*; 3 = *Very useful*; 4 = *Extremely useful*).

Data Analyses

Data analyses were conducted using the Statistical Package for the Social Sciences (SPSS, version 22.0; IBM SPSS, Chicago, IL). Descriptive statistics were computed for all sociodemographic and clinical characteristics, mothers' emotional experience and help-seeking behaviours, mothers' perception of the relative importance of barriers to seeking professional help, mothers' acceptability of parenting interventions, and mothers' preferences. To compare EPDS-positive and EPDS-negative groups on several variables, we used chi-squared tests (to compare categorical variables) and t-tests (to compare continuous variables). Cohen's *d* (small: $d \geq .20$; medium: $d \geq .50$; large: $d \geq .80$) and Cramer's *V* were used as effect-size measures. Differences in types of barriers were analysed as a function of mothers' depressive symptoms through a MANOVA.

Results

Concerning symptomatology groups, some differences were found in sociodemographic variables, with a higher proportion of mothers in the EPDS-positive group being unemployed and presenting lower household monthly income than mothers in the EPDS-negative group. Regarding clinical characteristics, a higher proportion of mothers in the EPDS-positive group presented unplanned pregnancies, current psychological problems and current psychological treatment than mothers in the EPDS-negative group (see Table 1).

Emotional Experience During the Postpartum Period

Approximately 37.4% of all mothers who reported difficulties during the postpartum period (e.g., sense of incompetence; stress) felt that those difficulties interfered with their parental role. Of the 55.1% of the sample that referred specifically to emotional difficulties (e.g., feeling sad, anxious, stressed), 39.4% reported that those difficulties were related to their relationship with the baby and/or the parental role. Approximately 35.9% of all mothers presented scores above the cut-off of the EPDS.

Considering symptomatology groups, a higher proportion of mothers in the EPDS-positive group perceived significantly more general difficulties and more emotional difficulties than mothers in the EPDS-negative group. No differences were found between groups in emotional difficulties related to the baby and/or the parental role (see Table 2).

Table 2

Comparative Analyses of Mothers' Emotional Experiences and Help-seeking Behaviours as a Function of Mothers' Risk on the EPDS

	EPDS-positive group (*n* = 215)	EPDS-negative group (*n* = 384)	χ^2	*p*	Cramer's *V*
	n (%)	*n* (%)			
General difficulties during postpartum (one more reported general difficulty during postpartum)	127 (59.1)	97 (25.3)	61.60	< .001	.33
Emotional difficulties during postpartum (yes)	182 (84.7)	148 (38.5)	118.44	< .001	.45

Emotional difficulties related to the parent-baby relationship and/or the parental role (yes)	136 (63.3)	100 (26.0)	2.05	.152	.08
Help-seeking behaviours (yes)	81 (37.7)	64 (16.7)	33.15	< .001	.24

Help-seeking Behaviours and Perceived Barriers During the Postpartum Period

Approximately 24.2% of the mothers stated that they have thought about seeking help or have actually sought help because of difficulties in caring for the baby and/or performing the parental role. Of these mothers, 12.0% referred sought medical help, 11.2% psychological help, and 10.4% family/friend help. As presented in Table 2, in the EPDS-positive group, a higher proportion of mothers thought about seeking help or actually sought more help because of difficulties in caring for the baby and/or performing the parental role than mothers in the EPDS-negative group.

With regard to the perceived barriers to seeking help, 12.2% of all mothers did not identify any barrier. The barriers more frequently endorsed were structural barriers (e.g., do not have time to participate in a psychological intervention), followed by knowledge and attitudinal barriers. Table 3 presents information about the perceived relative endorsement of several barriers.

The symptomatology groups were compared in terms of types of perceived barriers to seeking help. The multivariate effect was significant (Wilk's Lambda = 0.831, $F_{(3, 595)} = 40.30$, $p < .001$, $\eta^2_p = .169$). As presented in Table 3, significant differences were found for all types of barriers, with a higher proportion of mothers in the EPDS-positive group endorsing more of all types of barriers than mothers in the EPDS-negative group.

Table 3

Mothers' Perceived Barriers to Seeking Professional Help for Their Emotional/Psychological Problems During the Postpartum and Comparative Analyses of Barriers as a Function of Mothers' Risk on the EPDS

Perceived barriers	Total (*n* = 599)	EPDS-positive group (*n* = 215)	EPDS-negative group (*n* = 384)	Comparison analyses		
	M (*SD*), Min–Max	*M* (*SD*)	*M* (*SD*)	*F*	η^2_p	*p*
Attitudinal	0.95 (1.33), 0-5	1.59 (1.54)	0.59 (1.04)	88.25	.129	< .001

Knowledge	1.44 (1.23), 0-3	1.98 (1.14)	1.13 (1.17)	73.15	.109	< .001
Structural	2.33 (1.46), 0-5	2.83 (1.27)	2.04 (1.49)	42.74	.067	< .001

Knowledge and Acceptability of Mindful Parenting Interventions

Approximately 40.2% of all mothers revealed having heard about mindful or conscious parenting, with 77.6% of those mothers reporting applying the principles of mindful parenting in their relationship with their infant.

Regarding symptomatology groups, no differences were found between the EPDS-positive and EPDS-negative groups in mindful parenting knowledge ($\chi^2_{(1)} = 2.73$, $p = .099$; Cramer's $V = .07$) or in its application to the mother-infant relationship ($\chi^2_{(1)} = 3.63$, $p = .057$; Cramer's $V = .12$).

Perceived Utility of Mindful Parenting Interventions

Almost all mothers (94.5%) considered that a mindful parenting intervention would be useful in the postpartum period. Approximately 91.5% of mothers reported that this type of intervention should be available to all parents in the postpartum period, instead of only being available to parents with moderate or high levels of parenting stress.

There were no differences between symptomatology groups in the perceived utility of mindful parenting interventions (i.e., in participating in an intervention aimed at developing mindfulness skills in the relationship with the baby; see Table 4).

Perceived Utility of Psychological Parenting Interventions and Availability to Participate

Generally, mothers reported considering a psychological parenting intervention useful if it could help them cope with emotional difficulties related to their relationship with their baby and/or the parental role (97.7%), and 78.0% of mothers reported being available to participate in such an intervention.

Regarding symptomatology groups, significant differences were found in the perceived utility of a psychological parenting intervention and in the availability to participate in such an intervention, with a higher proportion of mothers in the EPDS-positive group perceiving these interventions as useful and being available to participate in them than mothers in the EPDS-negative group (see Table 4).

Table 4

Comparative Analyses of Mothers' Acceptability of Parenting Interventions as a Function of Mothers' Risk on the EPDS

	EPDS-positive group (*n* = 215)	EPDS-negative group (*n* = 384)	χ^2	*p*	Cramer's *V*
	n (%)	*n* (%)			
Perceived utility of mindful parenting interventions (yes)	208 (96.7)	358 (93.2)	3.27	.071	.07
Perceived utility of psychological parenting interventions (yes)	214 (99.5)	371 (96.6)	5.15	.023	.09
Availability to participate in a parenting intervention (yes)	186 (86.5)	281 (73.2)	14.27	< .001	.15

Preferences

Dissemination of the Intervention Programme

General Information About the Intervention Programme. Mothers identified several types of information about the intervention that they considered essential to receive to increase their likelihood of participating in the intervention. Specifically, they highlighted the relevance of knowing who built the programme (48.7%), the programme organization (e.g., how many sessions there were and the length of each session; 78.6%), the functioning of the sessions (72.8%), the programme effectiveness (58.8%), and the testimonies of other parents (60.8%). Approximately 1.0% of mothers also indicated other kinds of information they would like to obtain, such as the price of the intervention, the attendees of the programme, logistical support with their baby during the programme, and the benefits of participation.

No differences were found between symptomatology groups in the information mothers considered essential to receive about the intervention programme (knowing who built the programme ($\chi^2_{(1)} = .00$, $p = .974$; Cramer's $V = .001$), the programme organization ($\chi^2_{(1)} = 3.45$, $p = .063$; Cramer's $V = .08$), the functioning of the sessions ($\chi^2_{(1)} = 1.11$, $p = .292$; Cramer's $V = .04$), the programme effectiveness ($\chi^2_{(1)} = .05$, $p = .816$; Cramer's $V = .01$), and the testimonies of other parents ($\chi^2_{(1)} = .17$, $p = .682$; Cramer's $V = .02$)).

Dissemination Format. Most mothers revealed that they were "very likely" to participate in an intervention if it was suggested by a health professional (psychologist, 80.6%; obstetrician, 79.6%; family physician, 73%; other health professional, 58.8%) or friends (69.6%). A smaller percentage of mothers revealed that they were "very likely" to participate when the intervention was suggested through informative materials available in health institutions (27%), social media (17.2%) or the internet (13.7%).

No differences were found between the EPDS groups regarding mothers who select "very likely" in their probability of participation considering the different formats of dissemination: psychologist ($\chi^2_{(1)} = .12$, $p = .724$; Cramer's $V = .01$), obstetrician ($\chi^2_{(1)} = 5.21$, $p = .022$; Cramer's $V = .09$), family physician ($\chi^2_{(1)} = .36$, $p = .546$; Cramer's $V = .03$), other health professional ($\chi^2_{(1)} = 1.33$, $p = .249$; Cramer's $V = .05$), friends ($\chi^2_{(1)} = 2.38$, $p = .123$; Cramer's $V = .06$), informative material ($\chi^2_{(1)} = 2.88$, $p = .090$; Cramer's $V = .07$), social media ($\chi^2_{(1)} = .47$, $p = .494$; Cramer's $V = .03$), internet, ($\chi^2_{(1)} = 4.51$, $p = .034$; Cramer's $V = .09$).

Characteristics of the Intervention

General Features. Most mothers stated that they preferred a weekly frequency of the intervention (85.0%) and an average of 10 sessions (48.6%) of 45 and 60 minutes in length (52.6%). Approximately 56.3% of mothers preferred to take the baby with them to the session rather than leaving the baby at home/nursery, and the majority indicated that the ideal time to begin participation in the programme was between the first and the third month of the baby's birth (32.2% one month; 16.5% two months; 16.7% three months) [*M*(*SD*) = 3.64 (3.15); 1-12]. A health care centre was selected as the best place to conduct the intervention sessions (75.0%), followed by maternity (17.9%) and other places (e.g., private clinics, non-clinical context; 3.5%).

Regarding symptomatology groups, a higher proportion of mothers in the EPDS-positive group preferred, on average, one more session than did mothers in the EPDS-negative group (see Table 5).

Table 5

Comparative Analyses of Mothers' Preferences Regarding General Features of a Parenting Intervention as a Function of Mothers' Risk on the EPDS

	EPDS-positive group (*n* = 215)	EPDS-negative group (*n* = 384)	t/χ^2	*p*	d/Cramer's V
	n (%)	*n* (%)			
Frequency (weekly)	176 (81.9)	333 (86.7)	3.23	.200	.07
Number of sessions	*M*(*SD*) = 8.28 (3.00)	*M*(*SD*) = 7.71 (2.52)	-2.48	.014	.23
Length of each session (45-60 minutes)	113 (52.6)	202 (52.6)	.57	.903	.03
Taking the baby to the session	118 (54.9)	219 (57.0)	.26	.611	.02
Beginning of participation	*M*(*SD*) = 3.87 (3.34)	*M*(*SD*) = 3.51 (3.04)	-1.36	.175	.11
Location (health care centre)	164 (76.3)	285 (74.2)	.60	.439	.03

Perceived Usefulness of Informational and Interaction Features of the Intervention. As presented in Table 6, the mean values of the perceived usefulness of informational and interaction features of the intervention were approximately three points on a scale that ranged from 0 (not at all useful) to 4 (extremely useful). The features considered most useful were having individualized information (i.e., getting feedback/information that could be related to their specific situation), being able to share ideas and experiences in person with other parents who are also in the postpartum period, and being able to talk to a psychologist about doubts and concerns related to the baby and the parent-baby relationship (see Table 6). A higher proportion of mothers in the EPDS-positive group than in the EPDS-negative group considered it significantly more useful to have individualized information ($t_{(597)} = -2.26$, $p = .024$) and to be able to talk to a psychologist about doubts and concerns related to the baby and the parent-baby relationship ($t_{(597)} = -3.85$, $p < .001$) (see Table 6).

Perceived Usefulness of Specific Intervention Content. As presented in Table 6, the mean values of the perceived usefulness of specific intervention components were all above three points on a scale that ranged from 0 (not at all useful) to 4 (extremely useful). The intervention components with the highest mean values were learning how to better understand the baby's emotions (i.e., if he is happy, angry), learning how to better understand the baby's behaviours and learning new tools and skills to better cope with parenting stress. A higher proportion of mothers in the EPDS-positive group than in the EPDS-negative group considered it significantly more useful for a parenting intervention to include information about how to be less self-critical as a parent ($t_{(512.76)} = -1.98$, $p = .048$) and how to learn new tools and skills to better cope with parenting stress ($t_{(535,56)} = -3.15$, $p = .002$) (see Table 6).

Table 6

Comparative Analyses of Mothers' Preferences Regarding the Perceived Usefulness of Informational and Interaction Features of the Intervention and Specific Intervention Contents as a Function of Mothers' Risk on the EPDS

	Total (*n* = 599)	EPDS-positive group (*n* = 215)	EPDS-negative group (*n* = 384)	*t*	*p*	*d*
Perceived Usefulness of Informational and Interaction Features of the Intervention (range 0-4)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)			
1. Having theoretical information about the themes of a session in attractive formats (e.g., videos, diagrams) that facilitate an understanding of the content	2.92 (0.81)	2.98 (0.86)	2.89 (0.78)	-1.21	.228	.11
2. Having individualized information (i.e., getting feedback or information that suits one's individual situation)	3.22 (0.72)	3.31 (0.70)	3.17 (0.72)	-2.26	.024	.20
3. Doing homework tasks between sessions	2.63 (0.99)	2.67 (1.03)	2.61 (0.97)	-0.74	.457	.06
4. Sharing ideas and experiences with other parents in person	3.17 (0.77)	3.21 (0.78)	3.14 (0.76)	-1.05	.294	.09
5. Sharing ideas and experiences with other parents online (e.g., through email or a forum)	2.69 (0.96)	2.73 (1.00)	2.67 (0.93)	-0.72	.471	.06
6. Talking to a psychologist about doubts and concerns related to the baby and the parent-baby relationship	3.21 (0.77)	3.37 (0.71)	3.12 (0.79)	-3.85	<.001	.33
Perceived Usefulness of Specific Intervention Contents (range 0-4)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)			
1. Learn how to be more present in parent-baby interactions	3.34 (0.70)	3.35 (0.69)	3.33 (0.71)	-0.38	.704	.03
2. Learn how to better control impulses in parent-baby interactions	3.39 (0.72)	3.40 (0.77)	3.39 (0.69)	-0.16	.871	.01
3. Learn how to better detect one's emotions when interacting with the baby and to understand how one's emotions influence one's behaviour with the baby and one's decisions as a parent	3.42 (0.68)	3.48 (0.61)	3.39 (0.72)	-1.68	.094	.13
4. Learn how to better understand the baby's emotions	3.48 (0.69)	3.53 (0.65)	3.46 (0.71)	-1.35	.177	.10
5. Learn how to be less self-critical as a parent	3.32 (0.76)	3.40 (0.67)	3.28 (0.80)	-1.98	.048	.16
6. Learn how to be more understanding and patient with the baby	3.31 (0.82)	3.33 (0.81)	3.29 (0.83)	-0.51	.609	.05

7. Learn how to better understand the baby's behaviours	3.47 (0.66)	3.51 (0.60)	3.45 (0.69)	-1.08	.280	.09
8. Learn new tools and skills to better cope with parenting stress	3.46 (0.68)	3.57 (0.55)	3.40 (0.71)	-3.15	.002	.27
9. Learn new tools and skills to better cope with difficulties in parent-baby interactions	3.41 (0.69)	3.44 (0.67)	3.39 (0.70)	-0.75	.453	.07
10. Learn mindfulness practices	3.16 (0.82)	3.17 (0.77)	3.15 (0.85)	-0.27	.786	.02

Discussion

Overall, our results support the demanding and challenging character of the postpartum period, with 35.9% of mothers presenting clinically significant depressive symptoms, as suggested by the EPDS results. The majority of mothers, including the majority of those with clinically significant depressive symptoms, stated that they have never been involved in help-seeking behaviours to address their difficulties, perceiving structural barriers as the main reason for not seeking professional help. Nonetheless, most mothers have demonstrated high acceptability of parenting interventions, particularly mindful parenting interventions, for the postpartum period. Finally, this study provides important information about the mothers' preferences regarding the format and content of a mindful parenting intervention; these preferences should be considered in the development of future interventions for this period.

First, regarding sociodemographic and clinical variables, the EPDS-positive group comprised a higher proportion of unemployed mothers and had a lower household monthly income than the EPDS-negative group. These results are in accordance with those of other studies (Gjerdingen et al., 2014; Lewis et al., 2017) and may suggest that a disadvantageous socioeconomic status may increase the demands of being a mother of an infant and that these sociodemographic variables are risk factors for the development of depressive symptoms during the postpartum period. Additionally, compared to mothers in the EPDS-negative group, a higher proportion of mothers with depressive symptoms reported having an unplanned pregnancy, currently experiencing psychological problems and being on psychological treatment, which is also in accordance with the findings of other studies (Azad et al., 2019; Bilszta et al., 2008).

Concerning mothers' emotional experience during the postpartum period, the majority reported presenting emotional difficulties, which is in line with the literature (e.g., Ford et al., 2019). Importantly, a significant percentage (39.4%) reported that emotional difficulties were related to their difficulties in caring for the baby and/or performing their role as a mother, which emphasizes the challenging character of the postpartum period concerning the new infant care tasks and the acquisition of and adaptation to the new parental role (Johansson et al., 2020; Ramsayer et al., 2019). Approximately 36% of mothers presented significant depressive symptoms, indicating that depressive symptoms are a prevalent mental health issue experienced by postpartum women, as also reported in other studies (Fredriksen et al., 2017; McCall-Hosenfeld et al., 2016; Papamarkou et al., 2017). Nevertheless, only a small percentage of depressed mothers are currently receiving treatment (9.3%), which is also in line with the findings of other studies (e.g., Ayres et al., 2019; Kim et al., 2010). Moreover, a higher proportion of

mothers in the EPDS-positive group perceived general difficulties (e.g., marital or family difficulties) and emotional difficulties (i.e., being more sad, anxious or stressed since the baby was born) than mothers in the EPDS-negative group, which was an expected result. This may be because ruminative and self-critical thoughts in mothers with depressive symptoms may lead them to experience more negative affect and to interpret parenting situations in a more negative way (Campbell et al., 2008). However, it is important to note that this relationship can be bidirectional; therefore, the perception of general and emotional difficulties may also lead to the development of depressive symptomatology (McIntosh, 1993). With regard to the emotional difficulties related to the baby and/or the mother's role, no differences were found between symptomatology groups. This result may suggest that regardless of the presence of depressive symptomatology, all mothers experience difficulties related to the baby or their parental role, highlighting the transversal character of this type of difficulty in the postpartum period (Chung et al., 2018; Eckstein et al., 2019).

Considering help-seeking behaviours, 24.2% of mothers stated that they have thought about seeking help or that they have actually sought help because of difficulties in caring for the baby and/or performing the parental role, with psychological help occupying the second type of professional help requested after medical help. More mothers in the EPDS-positive group thought about seeking help or actually sought help (37.7%) than mothers in the EPDS-negative group (16.7%). In line with other studies (e.g., Loudon et al., 2016; O'Mahen & Flynn, 2008), structural barriers (e.g., do not have time to participate in a psychological intervention) were significant perceived barriers to seeking help. A higher proportion of mothers who presented depressive symptoms perceived more structural, attitudinal and knowledge barriers than did mothers without depressive symptoms, which is in line with the literature (e.g., Grissette et al., 2018).

Additionally, approximately 40% of mothers revealed that they had heard about mindful parenting, with most of them reporting applying these principles to their relationship with their baby. No differences were found between symptomatology groups in terms of knowledge and application of mindful parenting principles to the mother-infant relationship. This study evidenced a high level of acceptability of mindful parenting interventions among mothers, regardless of the presence of depressive symptoms, suggesting that those interventions are relevant to all mothers. Overall, almost all mothers stated that a psychological parenting intervention that could help them cope with emotional difficulties related to their relationship with their baby and/or their parental role would be useful, with a higher proportion of mothers in the EPDS-positive group perceiving these interventions as useful than that of mothers in the EPDS-negative group. Furthermore, most mothers reported being available to participate in a parenting intervention, especially mothers with depressive symptoms. This result was unexpected, as the majority of

depressive mothers are usually not willing or able to participate in intervention programmes (Dennis & Chung-Lee, 2006). Therefore, it is important to take advantage of mothers' acceptability of interventions specifically designed to target the mother-infant relationship (Nylen et al., 2006).

Finally, this study identified mothers' preferences about the intervention. Considering the dissemination of the intervention programme, our results suggest that some information should be given to mothers, especially about the programme organization (e.g., the number of sessions, the length of time per session) and the functioning of the sessions. Regarding the dissemination format, most mothers in both symptomatology groups considered themselves very likely to participate in an intervention if it was suggested by a health professional (especially a psychologist or an obstetrician) or friends. Only a small proportion of mothers indicated that they would be very likely to participate in an intervention if it was recommended though informative materials available in health institutions, social media, or online. This result highlights the importance of increasing acceptance among health professionals of mindful parenting interventions and improving their knowledge of this kind of intervention and their role in disseminating them, so that they can recommend such interventions to mothers. Additionally, it highlights the importance of focusing on a personal format of dissemination, especially through health professionals, rather than using informative material available in health institutions, on social media, or online.

With regard to the characteristics of the intervention, most mothers stated that they preferred an average of 10 sessions at a frequency of one per week with a length of 45 to 60 minutes each session. Importantly, a higher proportion of mothers in the EPDS-positive group preferred, on average, one more session than did mothers in the EPDS-negative group. This result may be understood in the following context: once depressive mothers are asked about their preferences for professional psychological help, they may feel more valued and that there is real interest in their needs. Most mothers prefer to take the baby with them to the session rather than leave the baby at home/nursery, which may be beneficial, as parents learn the actual behaviours of mindful parenting in direct relation to their own child (Townshend & Caltabiano, 2019), and having the baby in the session provides a therapeutic space for mothers to explore their emotional difficulties in the transition to motherhood in the presence of their infant. Furthermore, according to Coo et al. (2018), the infants' presence in the group sessions gives clinicians the opportunity to help mothers direct their focus towards interactions with their infant and to reflect on their developing attachment relationships. In addition, we found that mothers prefer to initiate their participation in a parenting programme during the first three months of the baby's birth. This is an understandable result, since the first months postpartum are an overwhelming and a challenging time (Cronin, 2003), during which many difficulties in the relationship with the infant

and in adaptation to the parenting role may arise. With regard to the preferred place to participate in a parenting intervention, mothers identified health care centres as the best locations. During the first months postpartum, the baby and the mother require regular and systematic monitoring (e.g., vaccination; monitoring of the baby's weight; eventual breastfeeding support), which is usually provided in the local health care centre. Thus, the health care centre is the most visited health institution in the first months postpartum, and therefore, it seems to be the most convenient place to participate in a parenting intervention. In addition, as health care centres are usually located in residential areas, participating in an intervention allows parents to save time and minimize costs.

Considering the perceived usefulness of informational and interaction features of the intervention, mothers considered it extremely useful that a parenting intervention would allow them to obtain individualized information (i.e., getting feedback/information on their specific situation), to share ideas and experiences with other parents who are also in the postpartum period and to talk to a psychologist about doubts and concerns related to the baby and the parent-baby relationship. Importantly, a higher proportion of mothers in the EPDS-positive group considered it significantly more useful to have individualized information and to be able to talk to a psychologist about doubts and concerns than mothers in the EPDS-negative group did. These results support the idea that each mother should have a personalized plan to her needs (Kennedy et al., 2002) and draw attention to the importance of a group format and of the therapeutic relationship when psychological support is provided. With regard to the perceived usefulness of specific intervention content, the components with the highest mean values were learning how to better understand the baby's emotions (i.e., if she/he is happy, frustrated, sad, or angry), how to better understand the baby's behaviours and how to learn new tools and skills to better cope with parenting stress. Importantly, a higher proportion of mothers in the EPDS-positive group than in the EPDS-negative group considered it significantly more useful for a parenting intervention to include information about how to be less self-critical as a parent and how to learn new tools and skills to better cope with parenting stress. This result may be explained by the fact that, in the postpartum period, depressive mothers experience a self-critical thinking style and ruminative thoughts (Pedro et al., 2019) and higher levels of parenting stress (e.g., Fredriksen et al., 2019; Molgora et al., 2020). This can indicate their sense of incompetence in understanding and responding to their infant's needs (Leigh & Milgrom, 2008) and can make it more difficult for them to engage in self-compassionate parenting (Fernandes et al., 2020).

Limitations and Future Research

This study has some limitations that should be mentioned. First, this is a cross-sectional study, and therefore, causal relationships cannot be inferred. Future longitudinal studies are needed to better understand the directionality and associations between the variables explored in the current study. Second, the sample was collected online, which could lead to self-selection bias, since people who participated in this study were likely to be more motivated and interested in the subject than those in the general population. Third, the sample was entirely composed of mothers, which limits the generalization of these results to fathers. Fourth, most of the mothers in this study were married or living with a partner, had completed higher education, and lived in urban areas, which may compromise the generalization of the results to mothers with different sociodemographic characteristics. Future studies should use a sample with more sociodemographic diversity, maybe obtained through face-to-face sample collection. Fifth, only self-report instruments were used to assess study variables, which could compromise the results, since self-report instruments can be influenced by social desirability.

Despite these limitations, this study contributes to the research about mindful parenting interventions, and it is suggestive of mothers' acceptability of this type of parenting interventions, during the postpartum period. In addition, this study provides important insights concerning specific features to consider and content to possibly include in those interventions. This study also emphasizes the need of identifying mothers who present a higher risk of developing depressive symptomatology by, for instance, screening for depressive symptoms in healthcare services and by referring mothers who could benefit from psychological care, specially, a mindful parenting intervention (e.g., Mindful with Your Baby Training; Potharst et al., 2017). Further studies are needed to confirm these results in clinical practice and to explore how to improve the mother's mindful parenting skills during the postpartum period (Gannon et al., 2019; Potharst et al., 2017).

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Compliance with Ethical Standards

Ethical Approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The Ethics Committee of the Faculty of Psychology and Educational Sciences of the University of Coimbra approved the study.

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Estudo Empírico VI

A web-based, mindful, and compassionate parenting training for mothers experiencing parenting stress: Results from a pilot randomized controlled trial of the Mindful Moment program

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Mindfulness [em revisão].

A web-based, mindful, and compassionate parenting training for mothers experiencing parenting stress: Results from a pilot randomized controlled trial of the Mindful Moment program

Abstract

Objectives: Mindful Moment is a self-guided, web-based, mindful and compassionate parenting training for postpartum mothers who experience parenting stress. We aimed to assess Mindful Moment's feasibility, acceptability and usability and to gather preliminary evidence of its efficacy in reducing parenting stress and changing other outcomes (e.g., self-compassion). **Methods**: This pilot randomized controlled trial (RCT) was a two-arm trial and followed the CONSORT 2010, CONSORT-EHEALTH and CONSORT-SPI 2018 extension guidelines. A total of 292 Portuguese mothers were randomly assigned to the intervention group (*n* = 146) or to the waiting list control group (*n* = 146) and completed baseline (T1) and postintervention (T2) self-reported assessments. **Results**: A total of 31 mothers (21.23%) completed the Mindful Moment intervention. Most mothers evaluated the program as good or excellent (90%), considered that Mindful Moment provided them the kind of help they expected or wanted (61%), were satisfied with the help provided by the program (74.6%), would recommend it to a friend in a similar situation (86.4%), and would use it again if needed (81.4%). Regarding the program's preliminary efficacy, mothers in the intervention group presenting a greater decrease in parenting stress, a greater increase in dispositional mindfulness and a greater decrease in their perception of the difficult temperament of their infants from T1 to T2. **Conclusions**: This study provides preliminary evidence of the Mindful Moment's efficacy and suggests that it is a feasible and acceptable program for postpartum mothers experiencing parenting stress. Further research is needed to confirm these results in a larger RCT.

***Keywords*:** Mindful Moment; pilot randomized controlled trial; parenting stress; mindful and compassionate parenting; postpartum period; web-based intervention

Introduction

The Postpartum Period and Parenting Stress

The postpartum period is a particularly stressful period in women's lives and is characterized by numerous challenges and demands (Chivers et al., 2021). This period is marked by numerous reorganizations and changes in mothers' lives, such as radical changes in familiar routines, greater fatigue and sleep deprivation (e.g., Caçador & Moreira, 2021; Kudo et al., 2014), and great psychological and emotional challenges, such as the necessity of being able to regulate the baby's emotional states and one's own internal states (Grande et al., 2021). All these challenges may increase parenting stress levels and negatively interfere with parenting.

Parenting stress refers to an aversive psychological and physiological reaction that emerges from attempts to adapt to the demands of parenthood. It arises when parents evaluate their resources as insufficient to respond to parenting demands with success (Deater-Deckard, 2004). During the postpartum period, new tasks and demands may exceed mothers' perceived resources, leading them to feel difficulties in adapting to the new parenting role. Additionally, it is well established that parenting stress may interfere with sensitive parenting (Booth et al., 2018), increase the likelihood of poorer quality caregiving (Missler et al., 2020) and impair mother-infant bonding (Nordahl et al., 2020). Importantly, it is also associated with poorer indicators of an infant's development (e.g., Leppert et al., 2018).

Currently, in addition to common postpartum period demands, mothers must deal with the context of the COVID-19 pandemic. Recent studies have already shown that parenting stress levels seem to have been intensified by pandemic-related factors, such as adopted preventive measures (e.g., quarantine, physical distancing, and isolation) that have had a negative impact on parenting practices (e.g., Chung et al., 2020). Specifically, during the postpartum period, several studies have indicated that mothers are experiencing high levels of parenting stress in the current pandemic (Omowale et al., 2021). Therefore, it is much needed to promote emotional regulation skills and positive and adaptive parenting skills aimed at helping mothers to better adjust to the postpartum period and to better deal with their parenting stress.

Mindful and Compassionate Parenting

Previous research suggested that mothers' capacity to regulate their own emotions helps them deal with parenting stress (Grande et al., 2021), facilitates more sensitive caregiving, and may have important implications for both maternal and child emotional health (Morris et al., 2017). Two well-known and highly associated psychological resources that may help mothers

regulate their emotions and help them respond more adaptively to parenting stress are mindfulness and self-compassion.

According to Kabat-Zinn (2003), mindfulness is the capacity of being aware, intentionally, of the moment-by-moment experience in a nonjudgmental way. Therefore, mindfulness is intrinsically related to self-compassion, as it pertains to the capacity to observe emotions and mental events without (self-)criticism and with a compassionate attitude. Self-compassion has been described as an attitude of kindness and acceptance toward one's own suffering and the desire to relieve it, and it involves three interrelated components: self-kindness, common humanity, and mindfulness (Neff, 2003, 2009).

Overall, it has been argued that teaching mindfulness skills to mothers can promote adaptive coping in stressful contexts and in the face of parenting challenges, as well as facilitate sensitive and responsive parenting (Duncan & Bardacke, 2010). In recent years, increasing attention has been given to the application of mindfulness to the parenting context. For instance, a study developed by Parent et al. (2016) with parents of children and adolescents found that higher levels of parents' dispositional mindfulness were indirectly related to lower levels of negative parenting practices and higher levels of positive parenting practices through higher levels of mindful parenting. Mindful parenting can be described as a more accepting, emotionally attuned, and compassionate way of parenting (Bögels & Restifo, 2014). This mindful approach to parenting includes skills that promote responsive and sensitive care to the child's needs, such as the ability to listen to the child with full attention, to adopt a nonjudgmental acceptance of self and child, to be emotionally aware of self and child, to be able to self-regulate in the parenting relationship and to be compassionate toward the self and the child (Duncan et al., 2009). There is growing evidence that mindful parenting is associated with several positive outcomes in parents and parent–child relationships, such as lower levels of parenting stress (e.g., Moreira & Canavarro, 2018), more positive parenting practices (e.g., Han et al., 2021), and positive parent–child interactions (e.g., Duncan et al., 2015), including in the postpartum period (e.g., Fernandes et al., 2021a).

Similarly, previous studies have consistently found positive associations between self-compassion and positive outcomes in parenting, such as greater parental well-being (Psychogiou et al., 2016), lower parenting stress (Garcia et al., 2021), and more positive parenting practices (Gouveia et al., 2016). In the postpartum period, a recent study showed that mothers' self-compassion was positively associated with lower levels of parenting stress and higher levels of mindful parenting (Fernandes et al., 2021d).

Additionally, recent systematic reviews suggest that mindful parenting interventions may reduce parenting stress and improve youth psychological functioning (Burgdorf et al., 2019), and

parenting interventions that include self-compassion components appear to improve parental self-compassion and mindfulness skills and to reduce depressive and anxious symptoms and parenting stress (Jefferson et al., 2020). Moreover, a recent systematic review that evaluated whether mindfulness- and compassion-based parenting interventions could help parents in the postpartum period develop adaptive parenting skills and provide sensitive and responsive infant care, suggested that those interventions seem to be beneficial for promoting positive parenting skills and the quality of parent-infant relationships in the early parenting years, including the postpartum period. However, only seven different face-to-face interventions were identified, showing the scarcity of these types of interventions applied to the postpartum period and the absence of e-health interventions. Additionally, there is insufficient evidence about the efficacy and effectiveness of those interventions, so future studies with stronger methodologies are needed (Fernandes et al., 2021c).

One of the few mindfulness- and compassion-based interventions developed for postpartum mothers is the Mindful with Your Baby Training (MYBT; Potharst et al., 2017). This intervention is an adaptation of the well-known Mindful Parenting Training (MPT; Bögels & Restifo, 2014) and includes eight weekly group sessions of two hours in length each, specifically tailored for mothers of babies aged between zero and 18 months, who presented high levels of parenting stress. In a longitudinal study, this training improved mothers' well-being, self-compassion, mindfulness skills, mindful parenting, parental confidence, and affection and responsivity toward the child. Additionally, this training seemed to reduce mothers' parenting stress, psychopathology and hostility expressed during the interactions with the child. In a recent study involving a quasi-experimental nonrandom design, MYBT was shown to decrease parenting stress as well, to improve mothers' acceptance of the child and to reduce unattuned comments to the child's mental states in clinically referred mothers of babies and toddlers (Zeegers et al., 2019).

The MPT can also be delivered online in a self-guided format. An RCT that included postpartum mothers who were experiencing high levels of parenting stress showed that although only 15.5% of the mothers completed the training, online MPT was effective in improving mothers' self-compassion and in decreasing symptoms of anxiety and depression and parental overreactivity when compared to a waiting list control (WLC) condition. However, contrary to expectations, the training was not effective in decreasing parenting stress. Only a significant delayed effect (at T3, follow-up) was found on a subscale of parenting stress measure (parental role restriction) for the intervention group, with a small effect size (Potharst et al., 2019). Recently, Boekhorst et al. (2021) evaluated online MPT in a nonclinical sample of mothers of toddlers with and without parenting stress. Although only 23.1% of the mothers completed the training, this

study highlighted the acceptability of a mindful parenting program for mothers with and without parenting stress. Both studies suggested that the online format increased accessibility and cost-effectiveness as additional advantages to mothers of babies aged between zero and 18 months old.

Online interventions, such as the online MTP, may be particularly suitable for postpartum mothers. Previous studies indicate that traditional face-to-face individual or group interventions are not easily accessible for all mothers during the postpartum period (e.g., Fonseca et al., 2015) and that many mothers identify several barriers (e.g., lack of time to participate in a psychological intervention) for not seeking professional help to cope with emotional difficulties (Fernandes et al., 2021b). In addition, the current pandemic-related restrictions (particularly social distancing) made face-to-face mental health care difficult to access. Therefore, there has been a growing interest and investment in e-mental health as an option to address barriers to seeking help from mental health professionals (Saladino et al., 2020; Wind et al., 2020).

E-mental health refers to mental health services and information delivered or enhanced through the internet and related technologies (Christensen et al., 2002). They have the potential for delivering better mental health information and improved and cost-effective mental health services, and they may reduce treatment uptake barriers among at-risk women (Bina, 2020), including postpartum mothers (Lim et al., 2019). Recently, a web-based, self-guided preventive intervention was developed to prevent postpartum depression among Portuguese women who presented risk factors for this clinical disorder—the Be a Mom program (Fonseca et al., 2020). However, there is no intervention focused on reducing parenting stress in postpartum mothers through the promotion of a mindful and compassionate approach to parenting. Hence, this study may constitute the first step to achieve a low-cost and easily accessible intervention for this target population.

The present study

The present study describes the results of a pilot randomized controlled trial (RCT) of an online self-guided intervention for mothers in the postpartum period: the Mindful Moment program. Mindful Moment is a mindful and compassionate parenting training that aims to help mothers reduce their parenting stress in the postpartum period through the development of a mindful and compassionate approach to parenting. It is based on the MYBT (Potharst et al., 2017, 2019), on compassion-focused therapy (Cree, 2010), and on the clinical practice with women in the perinatal period of the researchers who developed the program.

Given the pilot nature of this study, we aim to 1) assess the program's feasibility in terms of adherence, dropout rates, and the pattern of program usage (e.g., number of completed

modules), 2) assess the program's acceptability in terms of the users' global perceptions of the program and its usability, and 3) gather preliminary evidence of Mindful Moment's efficacy in reducing parenting stress (primary outcome) and in changing several secondary outcomes. The efficacy of the Mindful Moment program was defined as its ability to significantly reduce parenting stress. However, other outcomes that are related to parenting stress (e.g., Fernandes et al., 2021a; Monteiro et al., 2019) were also included in the study, such as mindful parenting, self-compassion, depressive symptoms, anxious symptoms, dispositional mindfulness, mother's perception of infant temperament and mother-infant bonding (secondary outcomes).

Methods

Trial Design

The present study consists of an open-label, parallel-group, pilot RCT with two arms designed to test the efficacy of the Mindful Moment in comparison with a WLC for postpartum mothers presenting moderate or high levels of parenting stress (Parenting Stress Scale [PSS] ≥ 41; Mixão, 2007). The study was conducted in accordance with the Declaration of Helsinki, and the protocol was approved by the Ethics Committee of the Faculty of Psychology and Educational Sciences of the University of Coimbra [blind for review]. Approval was also obtained from the Center Regional Administration of Health (ARS-Center) to disseminate the study to several health care centers in central Portugal. The study was registered on ClinicalTrials.gov (NCT04892082). The extensions of the CONSORT 2010 checklist for pilot trials (Eldridge et al., 2016), CONSORT-EHEALTH (Eysenbach, 2011) and CONSORT-SPI 2018 Extension (Montgomery et al., 2018) were used for study reporting.

Participants and Procedure

Eligibility criteria to participate in the study were (a) being 18 years of age or more; (b) having a child aged up to 18 months old; (c) presenting moderate or high levels of parenting stress (PSS cutoff point ≥ 41; Mixão, 2007); (d) being female; (e) being Portuguese; (f) being a resident of Portugal; and (g) having internet access in a desktop, tablet or telephone. Exclusion criteria were having a current diagnosis of a serious mental health condition (e.g., schizophrenia, substance abuse, bipolar disorder, and personality disorder) (self-reported).

The dissemination of the study was made online through social media websites (Facebook and Instagram). The study was also disseminated in several health care centers through flyers and posters that included information about the study. Recruitment began in April 2021 and lasted

until October 2021. We used unpaid cross-postings and paid boosting campaigns (one campaign per week for three days each, targeting women 18–50 years old with interest in maternity and mental health topics) to recruit participants on social media websites. Posts had the following advertisement: "Do you experience stress or difficulties in the mother-infant relationship? Did you have a baby in the last 18 months? Participate in Mindful Moment! We want to know if Mindful Moment is effective in reducing parenting stress. To know if you are eligible to participate in the study, fill out the following form, and the research team will contact you". Participants who were interested in the study clicked on a link to a survey. The first page of the survey presented the study goals and procedures, as well as the participants' (e.g., voluntary participation) and researchers' (e.g., guarantee of confidentiality) roles. Participants were also asked to provide their informed consent to participate in the study. Those who clicked on the option "I understand and accept the conditions of the study" answered a set of questions to assess eligibility criteria, including the Parental Stress Scale (Mixão et al., 2010), and provided their contact information (e-mail and telephone number). Participants who met the eligibility criteria were contacted through e-mail to make their registration on the Mindful Moment's website. Participants who did not meet eligibility criteria were sent an e-mail informing them of the reason they could not participate in the study and advising them to seek professional health from the family physician or to seek mental health help if needed.

To access the program, participants must register on the Mindful Moment's website with a protected password. After registration, participants accessed Module 0 ("Introduction to Mindful Moment"), which is a brief informational module, without intervention content, in which the functioning of the program is explained (e.g., its length and structure) and practical suggestions are provided (e.g., using headphones for audio exercises and having a notebook specifically for the Mindful Moment exercises and notes). This module also contained the link for the baseline assessment protocol (Time 1 – T1). Participants who completed the baseline assessment were randomized for one of the intervention arms. Those who were allocated to the intervention arm were granted full access to the Mindful Moment program. Participation in the Mindful Moment was free of cost, and no compensation was given to the women for participating in the study.

Participants in the intervention arm received a reminder (by e-mail and telephone) to continue accessing the Mindful Moment once a week for eight weeks after baseline assessment. Mothers who had a valid telephone number were also contacted by the first author of the present study approximately three weeks after baseline to clarify any questions regarding the flow of the program or to help with any difficulties in accessing the website. Participants who completed the program received an e-mail inviting them to complete the postintervention assessment protocol 2–3 days later (Time 2 – T2). Participants who did not complete the program were also sent an e-

mail with the postintervention assessment eight weeks after randomization (Time 2 – T2). No intervention was offered to participants in the WLC arm, but they were informed that they would receive access to Mindful Moment at the end of the study. Eight weeks after randomization, they were asked to complete the postintervention assessment protocol (Time 2 – T2) so that the assessment time was similar to that of the Mindful Moment group. All participants could access usual care from health or mental health services during the study. To reduce dropout rates, e-mail and text message reminders were sent each week to mothers in both groups who failed to complete the T1 and T2 online questionnaires.

Mindful Moment Program

The intervention arm consisted of the Mindful Moment program, a self-guided web-based intervention grounded in mindfulness- and compassion-based therapies specifically developed for the postpartum period. Mindful Moment is a completely self-guided program, so no human support is given. However, the first page of the website contains a form so that parents can contact the research team if they need technical support. The Mindful Moment has six sequential modules, with an approximate length of one hour each. While participants can complete the program at their own pace, it is suggested that they complete one module per week. Each module addresses one or two specific thematic contents. All modules start with a video in which the module's goals are presented by the main researcher of the present study. Next, the thematic contents and exercises of each module are presented through written materials, visual elements (e.g., images, schemes), and audio tracks. The last section of each module contains recommended homework tasks so that participants can continue the therapeutic practice during the week. The Mindful Moment intervention contains psychoeducational materials, formal mediation practices (e.g., breath meditation), self-compassion practices, and mindful parenting exercises. A detailed description of each module is presented in Table 1.

Table 1

Mindful Moment Program

Module's title	Content
1. Mindful parenting and parenting stress	Psychoeducation about mindful parenting and parenting stress and exercises to help mothers learn how to respond more adaptively to stressful situations in mother-infant interactions.
2. Beginner's mind	Psychoeducation about attachment and baby's signs and exercises to help mothers more easily recognize baby's signals and respond to them more responsively, without judging or labeling.

3. Self-compassion and self-care	Psychoeducation about compassion and exercises to help mothers develop a more compassionate attitude toward themselves and their parenting role.
4. Reactive vs. responsive parenting	Psychoeducation about the stress response and exercises to help mothers become less reactive in stressful mother-infant situations.
5. Relationship with others [social support and communication]	Psychoeducation and exercises focused on mothers' relationship with others and on the coparenting relationship. Self-compassion practices.
6. Mindful parenting for life	Reflections on how to promote a mindful parenting approach for the rest of mothers' lives.

Outcomes

Sociodemographic, Clinical, and COVID-19-related Information

The first part of the assessment protocol was developed by the researchers, and it included standard sociodemographic information (e.g., age), clinical data (e.g., current psychological and/or psychiatric problems) and COVID-19-related information (e.g., mother's COVID-19 diagnosis).

Mindful Moment's Feasibility, Acceptability and Usability

The feasibility of the program was measured by adherence and dropout rates, that is, through the number of completers and users who dropped out from the intervention before completing it. These data were collected through the Mindful Moment website, which allowed reviewing the number of completed modules and the pages accessed in each module.

At the postintervention assessment, participants in the intervention arm completed an additional set of questions about Mindful Moment's acceptability and usability, developed by the researchers. Specifically, participants were asked about their satisfaction with the support provided by the program (e.g., "Mindful Moment provided me the kind of help I expected or wanted"); their intention to use it again if needed (e.g., "I would use Mindful Moment again, if I needed to"); their intention of recommending it to a friend (e.g., "I would recommend Mindful Moment to a friend in a similar situation"); and the usefulness/relevance of the information learned through the program (e.g., "Mindful Moment helped me to better care for my baby and to better relate with him or her"). These questions were answered on a two-point response scale (0 = *not at all applicable to me/little applicable to me*; 1 = *very applicable to me/totally applicable to me*). Additional questions were presented about the participant's experience using Mindful Moment, specifically regarding the website and its functioning (e.g., "The graphic design of Mindful Moment (e.g., illustrations, colors used) is attractive"), each module and exercises (e.g., "The number of modules was adequate"), and the mother's perceived utility of the program (e.g.,

"To have more positive interactions with the baby"). These questions were answered on a three-point response scale (0 = *disagree*; 1 = *not agree or disagree*; 2 = *agree*).

Preliminary Efficacy

Parenting Stress. The Parental Stress Scale (PSS; Mixão et al., 2010; Berry & Jones, 1995) was used to assess parenting stress, both in the eligibility criteria assessment and then as an outcome (postintervention assessment). The questionnaire has 18 items (e.g., "Caring for my child(ren) sometimes takes more time and energy than I have to give") answered on a five-point response scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The total score is calculated as the sum of the items, with higher scores indicating greater parenting stress. According to Mixão (2007), a cutoff point might be considered, with scores in PSS < 41 corresponding to low levels of parenting stress and scores ≥ 41 corresponding to moderate or high levels of parenting stress. In the present sample, Cronbach's alpha coefficients were .73 (T1; intervention group), .76 (T1; control group), and .86 (T2; intervention group and control group).

Mindful Parenting. The infant version of the Interpersonal Mindfulness in Parenting Scale (IM-P - Infant version; Caiado et al., 2020; Duncan, 2007) was used to assess mindful parenting among parents of infants. This scale contains 28 items (e.g., "It is hard for me to tell what my baby is feeling"), scored on a five-point response scale, ranging from 1 (*never true*) to 5 (*always true*), evaluating mindful parenting skills such as Listening with Full Attention, Emotional Awareness of the Child, Self-Regulation in Parenting, Nonjudgmental Acceptance of Parental Functioning and Compassion for the Child. The total score is the sum of all items, and higher scores indicate higher levels of mindful parenting. In the current sample, Cronbach's alpha coefficients (total score) were .85 (T1; intervention group), .84 (T1; control group), .84 (T2; intervention group) and .86 (T2; control group).

Self-compassion. To assess mothers' self-compassion, the short version of the Self-Compassion Scale (SCS-SF; Castilho et al., 2015; Raes et al., 2011) was used. The SCS-SF comprises 12 items (e.g., "When I'm going through a very hard time, I give myself the caring and tenderness I need") answered on a five-point response scale, ranging from 1 (*almost never*) to 5 (*almost always*). It is possible to obtain a global measure of self-compassion by estimating the mean of the 12 items, with higher scores indicating higher levels of self-compassion. In the present sample, Cronbach's alpha coefficients were .90 (T1; intervention group), .88 (T1; control group), .91 (T2; intervention group), and .89 (T2; control group).

Depressive Symptoms. The Portuguese version of the Edinburgh Postnatal Depression Scale (EPDS; Figueiredo, 1997; Cox et al., 1987) was used to screen for the presence of depressive symptoms in the postpartum period. The EPDS is a widely used 10-item screening scale for antepartum and postpartum depression in which women are asked to rate their emotions (e.g.,

sadness) over the previous seven days using a four-point response scale. Higher scores are indicative of greater depressive symptoms. In Portuguese validation studies (Figueiredo, 1997), a score of 10 or higher was found to be indicative of clinically relevant depressive symptoms. In our sample, Cronbach's alpha coefficients were .85 (T1; intervention group), .83 (T1; control group), .90 (T2; intervention group), and .89 (T2; control group).

Anxious Symptoms. The Anxiety Subscale of the Portuguese version of the Hospital Anxiety and Depression Scale (HADS; Pais-Ribeiro et al., 2007; Snaith, 2003) was used to assess levels of anxious symptomatology in the previous week. This subscale contains 7 items (e.g., "I feel tense or wound up") and uses a four-point response scale, ranging from 0 (*not at all/only occasionally*) to 3 (*most of the time/a great deal of the time*). The total score is the sum of the items, with higher scores indicating higher levels of anxious symptoms. In this sample, Cronbach's alpha coefficients were .80 (T1; intervention group), .81 (T1; control group), .85 (T2; intervention group), and .80 (T2; control group).

Dispositional Mindfulness. Dispositional mindfulness was assessed by the Mindful Attention and Awareness Scale (MAAS; Gregório & Pinto-Gouveia, 2013; Brown & Ryan, 2003). This is a unidimensional self-report measure of trait mindfulness that comprises 15 items (e.g., "I rush through activities without being truly attentive to them") answered on a six-point response scale ranging from 1 (almost never) to 6 (almost always). Higher scores reflect higher levels of dispositional mindfulness. In this study, Cronbach's alpha coefficients were .91 (T1; intervention group and control group), and .92 (T2; intervention and control group).

Mother's Perception of Infant's Temperament. The Difficult Infant Temperament Questionnaire (DITQ; Azevedo, 2005; Macedo et al., 2011) was used to assess the mother's perception of her infant's temperament. This questionnaire assesses the mother's perception of her infant's characteristics and behaviors through eight items (e.g., "Is your baby irritable or fussy?"; "Does your baby cry excessively?"; "Is your baby difficult to comfort or calm down?"), answered on a six-point response scale, ranging from 1 (*never/nearly never*) to 6 (*always/nearly always*). A total score is calculated by summing the eight response scores. Higher scores are suggestive of a mother's perception of her infant's temperament as more difficult. In the present sample, Cronbach's alpha coefficients were .85 (T1; intervention group), .86 (T1; control group), .83 (T2; intervention group), and .86 (T2; control group).

Mother-infant Bonding. To assess mother-infant bonding, the Postpartum Bonding Questionnaire (PBQ; Nazaré et al., 2012; Brockington et al., 2006) was used. The PBQ is a self-report questionnaire designed to provide an early indication of mother–infant bonding disorders. It has 12 items (e.g., "I feel distant from my baby") to be rated on a five-point response scale, between 0 (*never*) and 5 (*always*). The total score is calculated as the sum of the items, with higher

scores indicating more impaired mother-infant bonding. In the present sample, Cronbach's alpha coefficients were .69 (T1; intervention group, .80 (T1; control group), .77 (T2; intervention group), and .85 (T2; control group).

Sample Size

A sample size of at least 30 participants per condition at postintervention assessment was needed to assess preliminary evidence of efficacy for the primary outcome (detecting a medium effect size [d = .25] with a statistical power of .80 in a two-tailed test, p < .05). Considering the expected dropout rate for self-guided interventions (> 50%) (e.g., Geraghty et al., 2010), at least 200 participants were needed for randomization.

Randomization

Eligible participants who completed the baseline assessment protocol were randomly assigned (parallel assignment; allocation rate 1:1) to the intervention group with access to the Mindful Moment program or to the WLC group. Randomization was performed using a computerized random number generator and was ensured by a second researcher (different from the one responsible for the enrollment and assignment of the participants to the study groups) who had no information about the participants (except the participants' codes). The randomization sequence was concealed from the researcher responsible for participant enrollment and assignment to groups. After randomization, participants received an e-mail with information about their assigned group.

Analytical Methods

Data analyses were conducted using the Statistical Package for the Social Sciences (IBM SPSS, version 25.0). Descriptive statistics were computed for all sociodemographic, clinical, COVID-19-related information, study variables, recruitment, retention data, and Mindful Moment's acceptability and usability.

Comparison tests (one-way ANOVA or chi-square tests) were used to compare the intervention and control groups in terms of sociodemographic, clinical, and COVID-19-related information. Comparison analyses (one-way ANOVA or chi-square tests) of the baseline information between mothers who completed both assessments and those who dropped out of the study were also conducted. Dropout was defined as not completing the primary outcome (parenting stress) at postintervention assessment regardless of the number of modules completed. Comparison analyses were also conducted between completers and noncompleters.

Noncompleters were defined as participants who did not complete at least four modules of the program.

To examine the preliminary evidence of the efficacy of the program, statistical analyses were performed in accordance with the intention-to-treat (ITT) principle following the CONSORT recommendations (Eldridge et al., 2016; Eysenbach, 2011; Montgomery et al., 2018). Therefore, all participants who completed the baseline assessment were included in the analyses even if they did not complete the postintervention assessment. To examine the intervention effects at postintervention for the primary and secondary outcome measures, linear mixed models (LMMs) with an autoregressive covariance structure were conducted. This approach allows us to include all participants of the trial in the analysis regardless of whether they dropped out, obtaining an unbiased estimate of the average causal effect as long as the missing at random assumption holds (Siddiqui et al., 2009), which was the case (Little's MCAR test $\chi^2 = 338.28$, $p = 0.880$). Fixed effects were time, group, time x group interaction and covariates (variables presenting statistically significant differences between intervention and control groups at baseline and between completers and dropouts at postintervention: age, previous psychological problem). Participants were included as a random intercept.

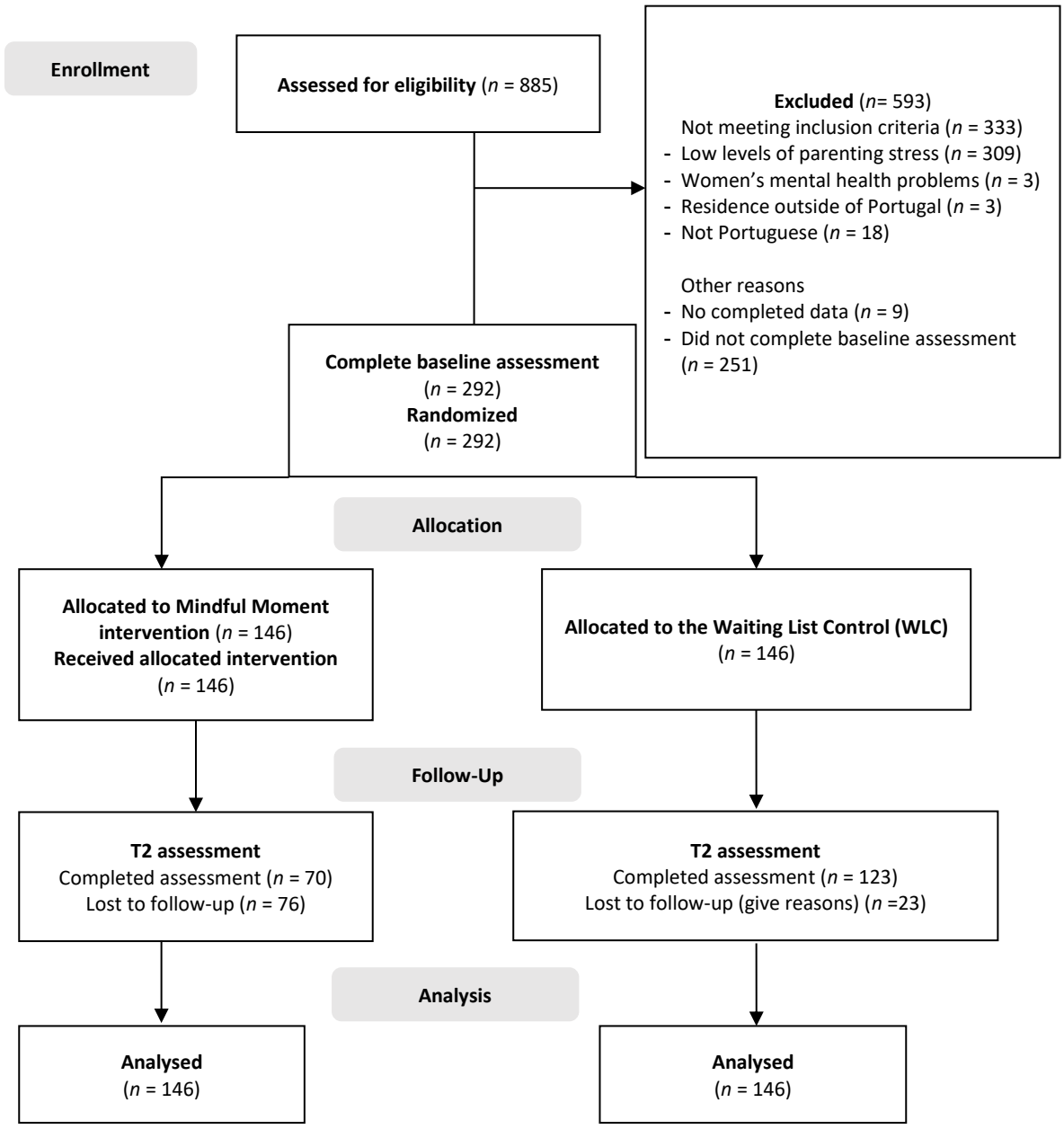
Results

Participant Flow, Recruitment, and Baseline Data

A flow diagram of the participants of the study is presented in Figure 1. Approximately 885 participants were enrolled in the study. Of the total participants, 593 (67%) were excluded for several reasons (mostly because they did not present moderate/high levels of parenting stress; *n* = 309, 52.11%). Of the 543 eligible participants, 292 completed the baseline assessment and were randomized and allocated to the intervention group (*n* = 146) or to the WLC group (*n* = 146).

Figure 1

Flowchart of the Study Participants



The final sample was composed of 292 mothers of babies aged between zero and 18 months. The complete baseline sociodemographic, clinical, and COVID-19-related information of mothers and babies of the two groups (intervention group and WLC group) is presented in Table 2. At baseline, no differences were found between mothers from the intervention group and from the control group in sociodemographic, clinical, COVID-related, and study variables, with the exception of mothers' age, with mothers from the intervention group being significantly older than mothers from the control group ($F_{(1, 291)} = 5.84$, $p = .016$, $\eta^2_p = .020$).

Table 2

Sociodemographic, Clinical and COVID-19-related Information of the Sample

	Experimental group	Control group	Comparison analyses	
	(*n* = 146)	(*n* = 146)	F/χ^2	*p*
Mother's sociodemographic information				
Mothers' age (years) *M* (*SD*); range	34.72 (4.71); 24-46	33.34 (5.02); 20-45	5.84	.016*
Mothers' marital status n (%)			0.46	.651
Living with a partner	134 (91.8%)	137 (93.8%)		
Not living with a partner	12 (8.2%)	9 (6.2%)		
Basic or secondary education	8 (7.9%)	14 (11.6%)		
Higher education	93 (92.1%)	107 (88.4%)		
Mothers' current employment status n (%)			0.03	1
Employed	124 (84.9%)	123 (84.2%)		
Unemployed, housewives, full-time mothers, students	22 (15.1%)	23 (15.8%)		
Maternity leave (yes)	51 (34.9%)	54 (37%)	0.13	.807
Mothers' household monthly income n (%)			0.00	1
Less than 2000€	96 (65.8%)	96 (65.8%)		
2000€ or above	50 (34.2%)	50 (34.2%)		
Mothers' area of residence n (%)			0.02	1
Urban	107 (73.3%)	106 (72.6%)		
Rural	39 (36.7%)	40 (27.4%)		
Mothers' clinical information				
Number of children n (%)			0.06	.904
One child	89 (61%)	91 (62.3%)		
More than one child	57 (39%)	55 (37.7%)		

Previous psychological problems n (%)			2.32	.160
Yes	77 (52.7%)	64 (43.8%)		
No	69 (47.3%)	82 (56.2%)		
Current psychological and/or psychiatric problem n (%)			2.77	.138
Yes	12 (8.2%)	21 (14.4%)		
No	134 (91.8%)	125 (85.6%)		
Current psychological and/or psychiatric treatment n (%)			0.87	.438
Yes	22 (15.1%)	28 (19.2%)		
No	124 (84.9%)	118 (80.8%)		
Obstetric complications n (%)				
In mothers	52 (35.6%)	42 (28.8%)	1.57	.260
In babies	19 (13%)	10 (6.8%)	3.10	.116
Babies' information				
Age (months) M (SD); range	8.21 (5.15); 0-22	8.49 (5.55); 0-18	0.20	.658
Sex n (%)			0.67	.482
Girls	68 (46.6%)	75 (51.4%)		
Boys	78 (53.4%)	71 (48.6%)		
COVID-19-related information				
Mother's COVID-19 diagnosis n (%)			0.16	.924
Healthy	130 (89%)	132 (90.4%)		
Suspected contact with someone infected	1 (0.7%)	1 (0.7%)		
Recovered	15 (10.3%)	13 (8.9%)		
Baby was infected with COVID-19 n (%)			0.63	.597
Yes	6 (4.1%)	9 (6.2%)		
No	140 (95.9%)	137 (93.8%)		
COVID-19 contagion risk group n (%)			0.04	1

Yes	13 (8.9%)	12 (8.2%)
No	133 (91.1%)	134 (91.8%)

Note. The Portuguese minimum wage in 2020 was 635 €

$^{*}p < .05$

At the postintervention assessment, the overall retention rate was 66.01%, with the intervention arm having significantly higher loss to follow-up than the control arm (intervention group: n = 76, 52.1% vs. control group: n = 23, 15.75%, $\chi^2_{(1)} = 42.93$, $p < .001$; Cramer's $V = .383$).

Potential differences between completers of the study and dropouts (participants who did not complete at least the primary outcome measure at T2, i.e., parenting stress) on baseline sociodemographic, clinical, and COVID-19-related information were explored. Differences in previous psychological problems were found, with participants who dropped out presented a higher proportion of a previous psychological problem than completers (completers: n = 83, 43% vs. dropouts: n = 58, 59%, $\chi^2_{(1)} = 6.36$, $p = .013$; Cramer's $V = .148$).

Mindful Moment's Feasibility, Acceptability and Usability

Feasibility

A total of 543 mothers fulfilled the eligibility criteria and received an e-mail invitation to access the Mindful Moment website. Of these, 292 mothers registered on the Mindful Moment website and completed the baseline assessment. After randomization, the intervention group (n = 146) had access to the full intervention. Of these, 31 (21.23%) completed the program (i.e., completed at least four modules), and 13 (8.9%) did not initiate any module.

Acceptability

Approximately 55.93% (n = 33) of the 59 participants in the intervention group who answered the questionnaire assessing Mindful Moment's acceptability and their experience using the program did not complete the intervention. Regarding the reasons for not completing Mindful Moment (participants could choose more than one option), most mothers highlighted lack of time (n = 37; 86%), followed by personal issues not related to the program (e.g., disease) (n = 9; 20.9%). Additionally, two mothers answered that Mindful Moment was not useful in their case (4.7%), one mother answered that the internet is not the ideal place to discuss this kind of content (2.3%), two mothers answered that they did not feel comfortable due to the online character of the program (e.g., they missed contact with a psychologist in person; 4.7%) and three mothers answered that they had technical issues (difficulty in access to a computer and to the internet; 7%).

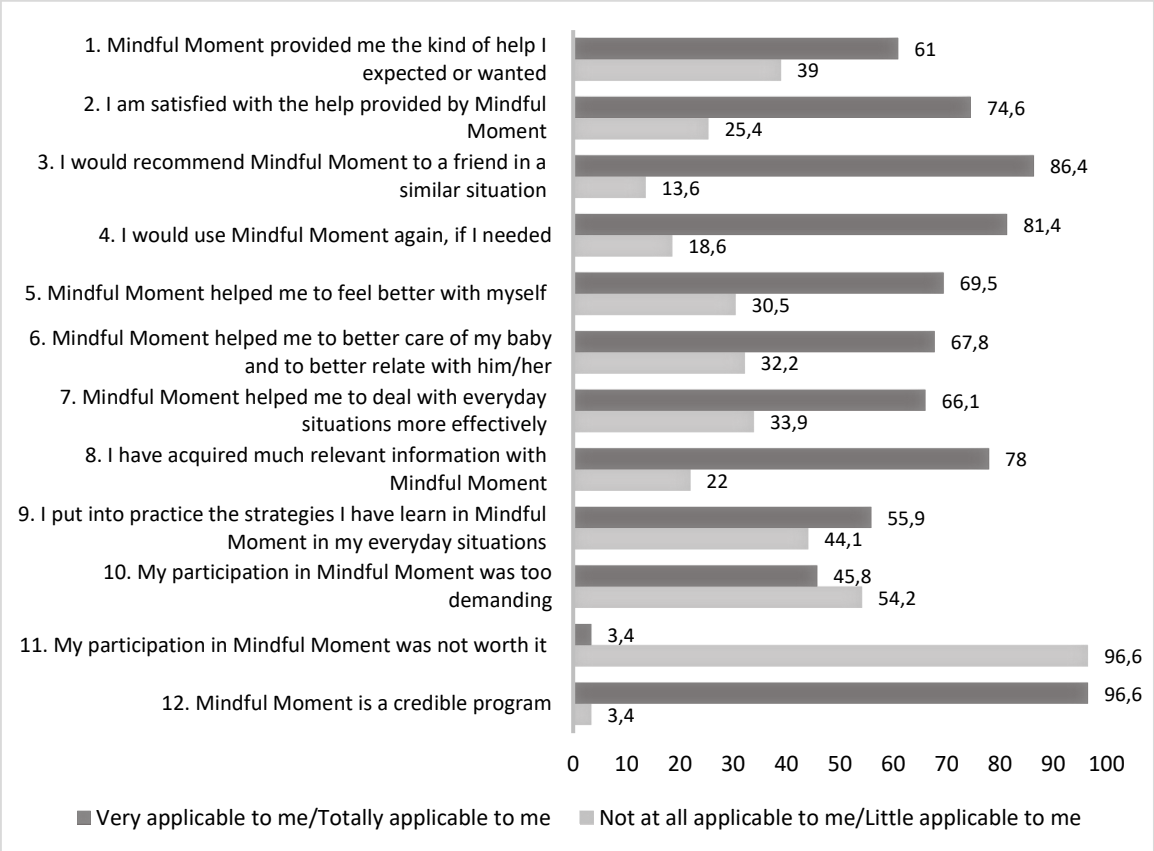
Moreover, one mother (0.3%) reported that she accessed Mindful Moment with her partner and that this had benefits for her own participation (e.g., higher motivation to participate) and for her partner as well (e.g., acquisition of skills and knowledge). Approximately 43 mothers (72.9%) spoke about their participation in Mindful Moment with someone (participants could

choose more than one option), such as their partner (*n* = 26), a family member (*n* =12) or a friend (*n* = 24).

Regarding the perceived quality of Mindful Moment, 90% of mothers evaluated the program as good or excellent. As displayed in Figure 2, most mothers considered that Mindful Moment provided them the kind of help they expected or wanted, were satisfied with the help provided by Mindful Moment, would recommend it to a friend in a similar situation, and would use it again, if needed. Additionally, mothers have considered that Mindful Moment helped them to feel better with themselves, to better care of their baby and to better relate with them and to deal with everyday situations more effectively. Most mothers considered that they acquired much relevant information with the program and that they had put into practice the strategies they had learned in Mindful Moment in their everyday situations. However, 27 mothers (45.8%) considered that their participation in Mindful Moment was too demanding, and two mothers considered that their participation was not worth it (3.4%). Overall, 96.6% of mothers considered Mindful Moment to be a credible program. When comparing completers and noncompleters of Mindful Moment, no differences were found in any acceptability question.

Figure 2

Participant's Acceptability of Mindful Moment



Usability

Regarding the general usability of the program, most mothers agreed that the graphic design of Mindful Moment (e.g., illustrations, colors used) was attractive (*n* = 46; 78%); that it was easy to navigate through the contents of the program (*n* = 56; 94.9%); that it was easy to find the content they were looking for (*n* = 49; 83.1%); that clicking on a button would usually lead them to the place they wanted (*n* = 49; 83.1%); and that the functioning and organization of Mindful Moment was presented clearly (*n* = 57; 96.6%). Most mothers disagreed that Mindful Moment's functioning was very complex (*n* = 43; 72.9%) or that it was difficult to understand how to use the website (*n* = 42; 71.2%).

Regarding the general usability of Mindful Moment, compared to completers, a higher proportion of mothers who did not complete the program disagreed with the statements that it was easy to find the content they were looking for in the program ($\chi^2_{(2)} = 6.62$, $p = .037$; Cramer's $V = .335$) and that clicking on a button would usually lead them to the place they wanted ($\chi^2_{(2)} = 6.62$, $p = .037$; Cramer's $V = .335$). Additionally, a higher proportion of noncompleters agreed more that Mindful Moment's functioning was very complex ($\chi^2_{(2)} = 8.88$, $p = .012$; Cramer's $V = .388$) in comparison with completers.

With regard to the usability of each module, 64.4% (*n* = 38) of mothers agreed that the number of modules was adequate, 94.9% (*n* = 56) considered that the language used was clear and easy to understand, and 71.2% (*n* = 42) considered that the content was presented in an interesting and attractive way. Additionally, most mothers disagreed that Mindful Moment had too much information (*n* = 35; 59.3%), that the reading of the contents became exhausting (*n* = 32; 54.2%), and that they missed information they were looking for in the program or could not find the information (*n* = 32; 54.2%). Finally, most mothers agreed that the use of videos at the beginning of each module helped to make the program more real and "human" (*n* = 48; 81.4%), helped them keep in mind the main message of each module (*n* = 45; 76.3%), and helped them feel greater proximity to the program (*n* = 50; 84.7%). When comparing completers and noncompleters, a higher proportion of completers than of noncompleters agreed more that the number of modules was adequate ($\chi^2_{(2)} = 8.80$, $p = .012$; Cramer's $V = .386$).

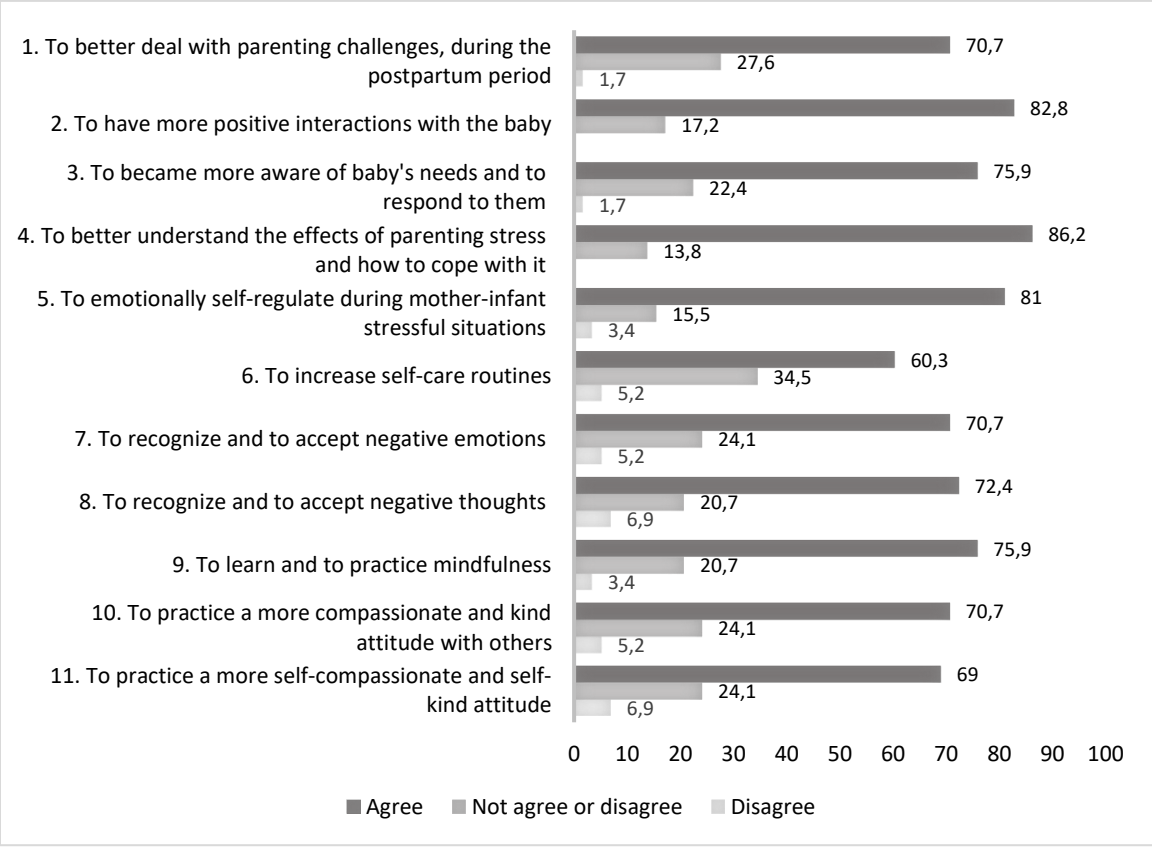
Most mothers (*n* = 35; 59.3%) agreed that the number of exercises was adequate, assessed the proposed exercises as helpful (*n* = 48; 81.4%), considered that the tips for performing the exercises were clear and helped them to perform them (*n* = 44; 74.6%), and assessed the suggested homework activities as interesting and useful (*n* = 45; 76.3%). However, 13 mothers (22%) found the proposed exercises difficult to accomplish, 38 mothers (64.4%) found the proposed exercises difficult to perform in the presence of the baby, and 41 mothers (69.5%) had difficulty doing the homework exercise during the week. A higher proportion of completers than

noncompleters agreed that the number of exercises of Mindful Moment were adequate ($\chi^2_{(2)}$ = 6.14, *p* = .046; Cramer's *V* = .323) and that the tips for performing the exercises were clear and helpful ($\chi^2_{(2)}$ = 10.97, *p* = .004; Cramer's *V* = .431).

As presented in Figure 3, overall, mothers had positive perceptions of the Mindful Moment program. For instance, most mothers considered that the program helped them to better understand the effects of parenting stress and how to cope with it (86.2%); to have more positive interactions with the baby (82.8%); and to emotionally self-regulate during mother-infant stressful situations (81%).

Figure 3

Participants' Perceived Utility of Mindful Moment



Mindful Moment's Preliminary Efficacy: Comparison with the Control Group

Estimated means and standard deviations, as well as fixed effects for time, group, time x group interaction and covariates, are presented in Table 3. For the primary outcome measure, the linear mixed model analysis revealed a significant effect of time, a significant effect of group and a significant time by group interaction. The intervention group had significantly lower PSS scores than the control group from baseline to postintervention. Changes in PSS scores for the intervention and control groups are displayed in Figure 4.

Table 3

Estimated Marginal Means and Fixed Effects for Primary and Secondary Outcomes

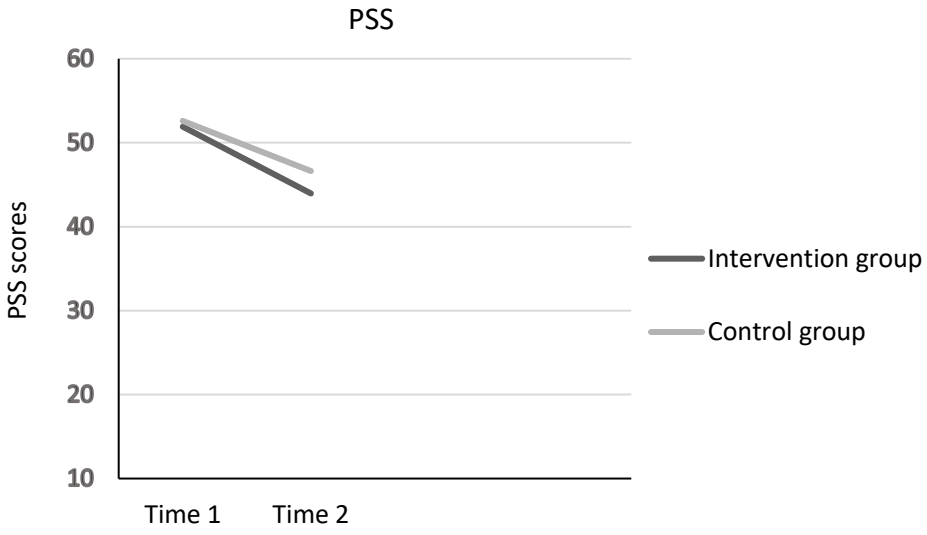
	Group	Time 1 *M* (*SE*)	Time 2 *M* (*SE*)	Effect	*B* (*SE*)	95% CI	*p*
PSS	*Intervention*	51.91 (0.61)	43.96 (0.80)	Time	5.97 (0.62)	[4.75, 7.19]	<.001
	Control	52.60 (0.60)	46.63 (0.64)	Group	-2.67 (1.03)	[-4.70, -0.64]	.010
				Time x Group	1.98 (1.00)	[0.00, 3.95]	.050
				Age	0.00 (0.80)	[-0.16, 0.16]	.985
				Previous Psychological Problem	0.66 (0.78)	[-0.87, 2.20]	.395
IM-P	*Intervention*	103.90 (0.92)	107.73 (1.14)	Time	-1.59 (0.73)	[-3.03, -0.16]	.030
	Control	104.14 (0.91)	105.73 (0.96)	Group	2.01 (1.49)	[-0.93, 4.94]	.180
				Time x Group	-2.24 (1.20)	[-4.61, 0.12]	.063
				Age	0.16 (0.13)	[-0.09, 0.41]	.197
				Previous Psychological Problem	-3.17 (1.23)	[-5.59, -0.75]	.010
SCS-SF	*Intervention*	33.23 (0.64)	35.08 (0.80)	Time	-1.38 (0.51)	[-2.39, -0.37]	.008
	Control	32.30 (0.64)	33.68 (0.67)	Group	1.40 (1.05)	[-0.66, 3.46]	.185
				Time x Group	-0.47 (0.85)	[-2.14, 1.20]	.579
				Age	0.17 (0.09)	[-0.00, 0.35]	.051
				Previous Psychological Problem	-5.02 (0.86)	[-6.72, -3.33]	<.001
EPDS	*Intervention*	12.41 (0.43)	10.47 (0.57)	Time	0.80 (0.40)	[0.02, 1.59]	.045
	Control	12.68 (0.43)	11.88 (0.46)	Group	-1.42 (0.73)	[-2.86, 0.02]	.054
				Time x Group	1.14 (0.66)	[-1.55, 2.44]	.084
				Age	-0.13 (0.06)	[-0.24, -0.02]	.026
				Previous Psychological Problem	2.58 (0.57)	[1.46, 3.69]	<.001
HADS	*Intervention*	10.04 (0.32)	9.39 (0.42)	Time	0.03 (0.28)	[-0.52, 0.58]	.908
	Control	10.07 (0.32)	10.03 (0.34)	Group	-0.65 (0.54)	[-1.71, 0.41]	.232
				Time x Group	0.62 (0.46)	[-0.29, 1.53]	.178
				Age	-0.12 (0.04)	[-0.20, -0.03]	.009
				Previous Psychological Problem	1.97 (0.43)	[1.13, 2.82]	<.001
MAAS	*Intervention*	48.00 (1.15)	51.58 (1.47)	Time	-0.33 (0.90)	[-2.11, 1.44]	.712

	Control	48.29 (1.15)	48.63 (1.21)	Group	2.95 (1.91)	[-0.80, 6.71]	.123
				Time x Group	-3.25 (1.52)	[-6.25, -0.25]	.034
				Age	0.09 (0.16)	[-0.22, 0.41]	.565
				Previous Psychological Problem	-5.52 (1.56)	[-8.59, -2.46]	<.001
	Intervention	24.09 (0.65)	21.79 (0.86)	Time	0.12 (0.58)	[-1.03, 1.27]	.837
	Control	23.66 (0.64)	23.54 (0.69)	Group	-1.75 (1.11)	[-3.93, 0.43]	.115
DITQ				Time x Group	2.18 (0.97)	[0.26, 4.10]	.026
				Age	-0.10 (0.09)	[-0.27, 0.08]	.276
				Previous Psychological Problem	-0.18 (0.86)	[-1.87, 0.81]	.834
	Intervention	8.31 (0.44)	6.58 (0.54)	Time	0.97 (0.34)	[0.29, 1.64]	.005
	Control	9.44 (0.44)	8.47 (0.46)	Group	-1.89 (0.71)	[-3.29, -0.50]	.008
PBQ				Time x Group	0.76 (0.57)	[-0.36, 1.87]	.182
				Age	-0.03 (0.06)	[-0.15, 0.09]	.643
				Previous Psychological Problem	0.19 (0.59)	[-0.97, 1.35]	.745

Note. PSS - Parental Stress Scale; IM-P – Interpersonal Mindfulness in Parenting Scale - Infant version; SCS-SF – Self-Compassion Scale-Short Form; EPDS - Edinburgh Postnatal Depression Scale; HADS - Anxiety Subscale of the Portuguese version of the Hospital Anxiety and Depression Scale; MAAS – Mindful Attention and Awareness Scale; DITQ – Difficult Infant Temperament Questionnaire; PBQ – Postpartum Bonding Questionnaire

Figure 4

Intervention and Control Group Trajectories for the PSS (parenting stress) scores From Time 1 to Time 2 (Based on Mean Estimates from Linear Mixed Models)



For the secondary outcomes, significant effects of time by group interaction were observed for measures of dispositional mindfulness and each mother's perception of her infant's temperament. Particularly, participants in the intervention group reported a significantly greater increase in dispositional mindfulness levels from baseline to postintervention than participants in the control group. Participants in the intervention group reported a significantly greater decrease in their perception that their infant had a difficult temperament than participants in the control group from baseline to postintervention. For the remaining secondary outcomes (mindful parenting, self-compassion, depressive symptoms, and mother-infant bonding), a significant effect of time was found, but no interaction effect. In the case of mother-infant bonding, a significant effect of group was also found, with participants in the control group reporting more depressive symptoms and more impaired bonding. No significant effects were found for anxious symptoms.

Discussion

The aim of the present study was to assess Mindful Moment's feasibility, acceptability, usability and to gather preliminary evidence of Mindful Moment's efficacy in reducing parenting stress in a sample of postpartum mothers with moderate or high levels of parenting stress. Overall, the results of our study suggest that Mindful Moment is a feasible, acceptable and usable

program for the target population and that it is superior, over time, to a waiting list control condition in reducing parenting stress, increasing dispositional mindfulness and decreasing the mothers' perception of the difficult temperament of their infant.

Feasibility, Acceptability, and Usability of Mindful Moment

Although only 21.23% of participants completed the Mindful Moment program, this result is congruent with previous research conducted with web-based interventions for the postpartum period (Boekhorst et al., 2021; Potharst et al., 2019) in a self-guided format (Monteiro et al., 2020). Most mothers referred to the lack of time as the main reason for not completing the intervention. The postpartum period is demanding, during which mothers usually spend most of their time taking care of their baby and managing family routines and work, which may leave them with little time for themselves or to participate in a psychological program. In addition, the self-guided character of Mindful Moment may have made it easier for mothers to choose to invest their time in other tasks rather than in the program. It is also important to consider that the recruitment period of the present study started in a period of great COVID-19 pandemic-related restrictions in Portugal (Diário da República Eletrónico [DRE], 2021). Therefore, mothers who were initially recruited were in lockdown and may have been involved in telework or taking care of their baby or other children full time (schools and kindergartens were closed). This may have made it more difficult for mothers to find the time needed to participate in the program. Thus, we can hypothesize that the adherence rate may have been different if the recruitment of participants had not taken place during the pandemic. Finally, we cannot rule out the hypothesis that the Mindful Moment was simply not attractive enough for most mothers to complete the program.

Overall, the acceptability results are encouraging. Approximately 90% of mothers evaluated the Mindful Moment as good or excellent, and most of them would recommend it to a friend in a similar situation and would use it again if needed. In addition, most mothers considered Mindful Moment to be a credible program. Most mothers considered the program to be usable, reporting positive perceptions regarding website features, modules, and exercises. This pilot study allowed us to understand mothers' opinions about the Mindful Moment website and program characteristics and to identify the strengths and weaknesses of this intervention. In general, the results indicate that Mindful Moment might be a usable intervention for postpartum mothers experiencing parenting stress.

Preliminary Evidence of the Efficacy of Mindful Moment

Mothers who participated in Mindful Moment showed a significant reduction in parenting stress from T1 to T2 compared to the control group. This result is in accordance with recent studies

that suggest that mindfulness- (e.g., Chaplin et al., 2021) and compassion-based interventions (e.g., Jefferson et al., 2020) may contribute to decreased levels of parenting stress, including during the postpartum period (Potharst et al., 2017). However, to our knowledge, the only online mindful- and compassion-based parenting intervention for postpartum mothers has not been shown to be effective in reducing parenting stress (Potharst et al., 2019). The results of our study are promising and suggest that in the Portuguese population, these kinds of interventions might be particularly useful, and that Mindful Moment is effective in reducing parenting stress.

With regard to the secondary outcomes, over time, mothers in the intervention group reported a significantly greater increase in dispositional mindfulness levels and a significantly greater decrease in their perception that their infant had a difficult temperament than mothers in the control group. Although Mindful Moment was designed to address parenting stress, the strategies included in the program also seem to have a relevant clinical effect on these outcomes. These results are consistent with previous studies showing that mindful parenting is positively associated with dispositional mindfulness (Gouveia et al., 2016) and negatively associated with a mother's perception of her infant having a difficult temperament (Fernandes et al., 2021a).

During the Mindful Moment program, mothers practice mindfulness meditations and other exercises to be more aware and present in mother-infant interactions, to pay attention to the baby's signals and emotional states and to pause before automatically reacting in stressful situations. It can be hypothesized that these skills may extend to the individual level, promoting a greater ability to be mindful or to sustain attention to general experiences and events occurring in the present moment (Brown et al., 2007) and not only in the parenting context. Likewise, it seems that over time, mothers who participated in the Mindful Moment began to perceive their infants' temperaments as less difficult, which is in accordance with previous research (Potharst et al., 2017). One of the goals of the Mindful Moment program is to help mothers develop an attitude of curiosity, openness, and acceptance toward their babies and in the interactions with them. In the program, mothers are invited to practice a beginner's mind in the relationship with their babies; that is, they are invited to see their babies and their behaviors without judging or labeling them. Thus, as mothers become more able to make negative judgments and labels about their baby and to stop focusing on challenging characteristics (e.g., a baby who cries a lot and is difficult to soothe), they may be more able to focus on the positive characteristics and aspects, which may lead them to perceive the infant's temperament as less difficult. In addition, it is already known that a mother who experiences parenting stress tends to perceive her infant's temperament as more difficult (Oddi et al., 2013), and this may change as she learns how to better cope with their parenting stress. Future studies should analyze these relationships with long-term assessment time and understand the potential mechanisms of change.

Limitations and Clinical Implications

This study has several limitations that should be acknowledged. First, it is an open-label pilot RCT because researchers and participants could not be blinded to treatment allocation. The knowledge of being in the intervention or control group could have influenced outcomes through an expectancy effect. Nevertheless, to minimize bias, the allocation was concealed and was made by a second investigator. Second, comparisons between the treatment and control groups on sociodemographic, clinical, and COVID-19 information revealed a significant difference in mother's age, with the intervention group including significantly older mothers than the control group, which may suggest that randomization was not completely successful. Therefore, a future RCT should use a stratified randomization method to control and balance the influence of participants' baseline characteristics. Third, the sample was collected online, which may compromise the representativeness of the sample, since participants who participated in the study were likely to be more interested in mental health and parenting subjects and more motivated to participate in a parenting program than those in the general population. Fourth, this study included only mothers, most of whom were living with their partner and were employed, which limits the generalization of these results to fathers and to mothers with different sociodemographic characteristics. Fifth, the validity of the results may have been affected because only self-reported instruments were used to assess the study variables. Participants may have been influenced by social desirability, and their answers may not reliably reflect their feelings or thoughts. Future studies might include clinical interviews or observational measures to complement data evaluation. Sixth, only two assessment times were included in the present study. A longer-term follow-up is required to ascertain whether differential effects are maintained and to evaluate potential mechanisms that explain mothers' response to treatment. Finally, the retention rate was only 66%, and a lower attrition rate was found in the control group (which may be explained by the motivation of mothers to receive the Mindful Moment's program in the future). Although the low adherence may be explained by lack of time, as mothers reported, it is possible that women who dropped out early from the intervention may have disliked some of the intervention features or contents. Further studies should explore these hypotheses.

Despite these limitations, this study has several strengths. For instance, at a methodological level, this study was developed in accordance with the CONSORT guidelines (Eldridge et al., 2016; Eysenbach, 2011; Montgomery et al., 2018), and the ITT principle was followed, which means that all participants (including the noncompleters from both groups) were included in the analyses. Moreover, the results are promising and support the use of Mindful Moment. This is a low-cost and easily accessible program that may be implemented in primary health care services as an early intervention focused on promoting mindful and compassionate parenting and, consequently, a

more positive mother-infant relationship in the postpartum period. Future RCTs with larger samples and long-term follow-up assessments are needed to confirm these findings and to explore potential mechanisms that may explain these results. In addition, it would be important to refine and improve some issues of the Mindful Moment program to improve retention rates. For instance, it would be useful to include more videos or interactive materials with practical examples, since most mothers agreed that the use of videos at the beginning of each module helped to make the program more real and "human" and helped them keep in mind the main message of each module and to feel greater proximity to the program; to simplify the exercises that involve the presence of the baby, since most mothers agreed that the proposed exercises were difficult to perform in the presence of the baby; and to reduce homework assignments, given the lack of time that mothers have reported. Further research is needed to consolidate these findings in a larger RCT that can integrate these modifications. Nevertheless, this study provides preliminary evidence of the feasibility, acceptability and preliminary efficacy of an accessible intervention option that could be easily disseminated among postpartum mothers who experience parenting stress.

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Compliance with Ethical Standards:

Ethical Approval and **Research involving Human Participants:** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The Ethics Committee of the Faculty of Psychology and Educational Sciences of the University of Coimbra approved the study.

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Capítulo V | Síntese e Discussão dos Resultados

No presente capítulo será apresentada uma síntese dos principais resultados obtidos no trabalho de investigação desenvolvido, que serão alvo de uma reflexão integrada e de uma compreensão global, tendo em conta os objetivos previamente estabelecidos. Uma vez que foi já apresentada a discussão mais detalhada dos resultados obtidos em cada estudo, em seção própria (cf. Capítulo IV), neste capítulo pretendemos fazer uma reflexão geral e integradora da forma como os resultados obtidos na Revisão Sistemática da Literatura e nos seis estudos empíricos, nos ajudam a responder aos objetivos traçados inicialmente. Por último, serão comentados os principais pontos fortes e as limitações deste trabalho de investigação, bem como as implicações e os contributos dos resultados encontrados para a investigação futura, e para a prática clínica e políticas de saúde.

1. Síntese e discussão integrada dos principais resultados

A fase de investigação I - **primeiro objetivo geral** - do presente trabalho de investigação pretendeu avaliar, sistematicamente, o efeito das intervenções parentais baseadas na parentalidade mindful e compassiva, aplicadas nos primeiros anos de vida da criança, incluindo no período pós-parto, na promoção de competências parentais positivas e na melhoria da qualidade dos cuidados parentais. Para a concretização deste objetivo, foi conduzida uma **Revisão Sistemática da Literatura**, que incluiu estudos empíricos com amostras de pais e mães que participaram num programa de intervenção baseado na parentalidade mindful ou compassiva (*N* = 7 programas de intervenção distintos em nove estudos/artigos científicos), incluindo no período pós-parto. Dada a heterogeneidade dos estudos incluídos, não foi possível proceder a uma análise quantitativa, através da realização de uma meta-análise, não sendo possível retirar conclusões acerca da eficácia e efitividade das intervenções, na promoção de resultados positivos para a parentalidade e relação pais-bebé. No entanto, o presente estudo permitiu realizar uma síntese narrativa e compreensiva dos principais tipos e características das intervenções e as estratégias terapêuticas utilizadas em cada intervenção, que serão apresentadas de seguida.

Características das intervenções parentais baseadas na parentalidade mindful e compassiva

- *Países*: as intervenções foram desenvolvidas em diversos **países** do **mundo**, sendo os Estados Unidos da América o mais prevalente. De notar que não foi identificado nenhum estudo de intervenção desenvolvido em Portugal;

- *População-alvo*: as intervenções foram desenvolvidas com amostras da **população clínica** e **não clínica**, com diferentes características (e.g., mães sem-abrigo; pais com bebés na Unidade de Cuidados Intensivos a Recém-Nascidos). A maioria das intervenções incluiu **díades mãe-bebé** e o **bebé esteve presente** em algumas ou todas as sessões da intervenção;

- *Método de administração, duração e facilitadores das intervenções*: o **formato grupal** foi o método de administração mais frequente nas intervenções; a maioria das intervenções tinha uma duração variável entre **oito** e **12 sessões**, com uma **frequência semanal**, e **cada sessão** durava aproximadamente **duas horas**; a maioria dos facilitadores das intervenções eram **especialistas em saúde mental** ou **equipas multidisciplinares**, com formação específica na área de intervenção;

- *Abordagem e componentes das intervenções*: todos os estudos relataram a utilização de **intervenções baseadas no mindfulness** ou **componentes de mindfulness** e **compaixão** aplicadas ao **contexto parental**; a maioria das intervenções foi inteiramente composta por componentes de mindfulness ou compaixão; poucas intervenções utilizaram outros componentes, tais como psicoterapia interpessoal e treino de cuidados neurodesenvolvimentais.

Estratégias terapêuticas

Todas as intervenções adaptaram estratégias de programas de intervenção baseados no mindfulness e na compaixão para o contexto parental nos primeiros anos de vida do bebé. As intervenções utilizaram principalmente **meditações formais** e **informais, baseadas no mindfulness**, **jogos interativos** e **discussão em grupo**. Algumas intervenções incluíram também atividades de **trabalho de casa**, entre as diferentes sessões de intervenção.

No geral, os resultados encontrados nesta revisão sistemática permitem concluir que as intervenções parentais baseadas na parentalidade mindful e compassiva aplicadas nos primeiros anos de vida do bebé, incluindo no período pós-parto, estão associadas à **promoção de competências parentais positivas**. Além disso, estas intervenções estão associadas à **promoção da qualidade da prestação de cuidados ao bebé** (maior responsividade e sensibilidade parental).

A fase de investigação II - **segundo objetivo geral** - do presente trabalho de investigação pretendeu explorar e compreender a experiência emocional das mães no período pós-parto, assim como os diferentes fatores e mecanismos-chave associados à adoção de uma parentalidade

mindful e compassiva, antes e durante a pandemia de COVID-19. Para tal, foram desenvolvidos quatro estudos empíricos, três com um desenho transversal e um com um desenho longitudinal, apresentando-se de seguida uma síntese dos principais resultados obtidos em cada estudo.

No que respeita ao **Estudo Empírico I**, este pretendeu explorar se a sintomatologia depressiva e ansiosa das mães e a sua perceção do temperamento do bebé se encontravam associadas às diferentes dimensões da parentalidade mindful, e se o stress parental mediava esta relação. Apresentamos de seguida os principais resultados:

- As **mães** que apresentaram **níveis clinicamente significativos** de **sintomatologia depressiva** e **ansiosa** (22.1%) apresentaram **níveis**, significativamente, **mais elevados** de **stress parental** e **níveis mais baixos** de **parentalidade mindful**, comparativamente às mães com níveis normais de sintomatologia depressiva e ansiosa;

- As **mães** que **percecionavam** o **temperamento do bebé** como **difícil** apresentaram **níveis**, significativamente, **mais elevados** de **stress parental** e **níveis mais baixos** de **parentalidade mindful**, comparativamente às mães que percecionavam o temperamento do seu bebé como mais fácil;

- **Níveis mais elevados** de **sintomatologia depressiva** e **ansiosa** e uma **perceção do temperamento do bebé** como **difícil** encontraram-se associados a **níveis mais baixos** de **parentalidade mindful**, através de **níveis mais elevados de stress parental.**

Relativamente ao **Estudo Empírico II**, que pretendeu explorar a contribuição de variáveis relacionadas com a pandemia, a saúde mental materna e a parentalidade mindful na explicação da ligação mãe-bebé, durante a primeira vaga da pandemia em Portugal, foram obtidos os seguintes resultados:

- **Mães que deram à luz durante a pandemia** apresentaram **níveis**, significativamente, **mais baixos** de **parentalidade mindful** – dimensão *consciência emocional da criança* - e uma **ligação mãe-bebé mais perturbada ou disfuncional**, relativamente a mães que deram à luz antes da pandemia;

- A **ligação mãe-bebé** foi **explicada** (49.2%) pelo **stress parental** e por algumas dimensões da **parentalidade mindful** (*escutar com atenção plena*, *autorregulação na relação parental* e *compaixão pela criança*). Especificamente, níveis mais elevados de stress parental e níveis mais baixos das dimensões da parentalidade mindful mostraram-se associados a uma ligação mãe-bebé mais disfuncional.

O **Estudo Empírico III** pretendeu explorar, longitudinalmente (T1 - período de elevadas restrições associadas à pandemia; T2 - período de desconfinamento), a associação entre a autocompaixão e a ligação mãe-bebé, e investigar se a parentalidade mindful e o stress parental mediavam esta associação, durante a primeira vaga da pandemia em Portugal. Foram obtidos os seguintes resultados:

- As mães apresentaram **níveis**, significativamente, **mais baixos** de **sintomas depressivos**, **níveis mais elevados** de **autocompaixão**, e uma **ligação mãe-bebé menos disfuncional** em **T2**, do que em **T1**;

- **Níveis mais elevados de autocompaixão** em T1 encontraram-se associados a uma **ligação mãe-bebé menos disfuncional** em T2, através de **níveis mais elevados** de **parentalidade mindful** e **níveis mais baixos** de **stress parental** (ambos avaliados em T1).

No que respeita ao **Estudo Empírico IV**, este pretendeu explorar se a autocompaixão das mães estava associada à parentalidade mindful, e se a sua sintomatologia depressiva e ansiosa mediava esta associação, durante a terceira vaga da pandemia em Portugal. Os principais resultados obtidos foram os seguintes:

- As mães que relataram ter experienciado que a pandemia teve um **impacto emocional negativo** no período pós-parto (79.5%) apresentaram **níveis**, significativamente, **mais baixos** de **autocompaixão** e de **parentalidade mindful**, e **níveis mais elevados** de **sintomatologia depressiva** e **ansiosa**;

- **Níveis mais elevados** de **autocompaixão** encontraram-se associados a **níveis mais elevados** de **parentalidade mindful**, através de **níveis mais baixos** de **sintomatologia ansiosa**.

No seu conjunto, estes resultados salientam o papel do stress parental enquanto mecanismo adverso quer para o funcionamento parental, dificultando a adoção de uma parentalidade mindful, quer para o estabelecimento de uma ligação mãe-bebé funcional. Para além disso, a própria parentalidade mindful revelou-se um mecanismo a ter em conta no estabelecimento da ligação mãe-bebé. Também a sintomatologia ansiosa relacionada com o pós-parto parece ser um mecanismo adverso para o funcionamento parental, dificultando a adoção de uma parentalidade mindful. Os resultados dos estudos desenvolvidos sugerem, igualmente, que a sintomatologia depressiva e ansiosa da mãe e uma perceção materna do temperamento do bebé como difícil têm um efeito adverso na parentalidade mindful. Contrariamente, a autocompaixão materna parece ter efeitos positivos no funcionamento parental e na relação mãe-bebé, facilitando a adoção de uma parentalidade mindful e o estabelecimento de uma ligação mãe-bebé funcional.

Por fim, os resultados permitem concluir que, durante um período de restrições mais elevadas relacionadas com a pandemia, as mães apresentaram níveis mais elevados de sintomas depressivos, mais dificuldade em adotar uma parentalidade mindful, em estabelecer uma ligação mãe-bebé mais funcional e em ser autocompassivas.

A fase de investigação III - **terceiro objetivo geral** - do presente trabalho de investigação pretendeu desenvolver, implementar e avaliar o Mindful Moment, um programa de parentalidade mindful e compassiva, online e autoguiado (apresentado em maior detalhe no Capítulo III da presente dissertação), numa amostra de mães com níveis moderados ou elevados de stress parental no período pós-parto.

Para tal, foram desenvolvidos dois estudos empíricos, apresentando-se, de seguida, uma síntese dos principais resultados obtidos.

Em primeiro lugar, no **Estudo Empírico V**, procurámos explorar os comportamentos de procura de ajuda e as respetivas barreiras percebidas de mães portuguesas no período pós-parto, e a sua aceitabilidade e preferências relativamente a intervenções parentais baseadas na parentalidade mindful [Estudo Empírico V]. Foram obtidos os seguintes resultados:

- *Experiência emocional*: cerca de **55.1%** das mães referiu apresentar dificuldades emocionais durante o período pós-parto (e.g., sentir-se triste, ansiosa, stressada), sendo que 39.4% destas mães reportou que as dificuldades emocionais estavam relacionadas com as suas **dificuldades em cuidar do bebé** e/ou **desempenhar o seu papel de mãe**; não foram encontradas diferenças significativas entre grupos de sintomatologia (i.e., mães com sintomatologia depressiva clinicamente relevante e sem sintomatologia depressiva clinicamente relevante) no que diz respeito às dificuldades emocionais relacionadas com os cuidados ao bebé e/ou desempenho do papel de mãe;

- *Comportamentos de procura de ajuda*: cerca de **24.2%** das mães referiu ter **pensado em pedir** ou **pediu, efetivamente, ajuda** devido às dificuldades sentidas na relação com o bebé e no desempenho do seu papel de mãe; a **ajuda psicológica** constituiu o segundo tipo de ajuda profissional procurada, seguindo-se à ajuda **médica**; mães com sintomatologia depressiva clinicamente relevante pensaram mais em procurar ajuda ou procuraram efetivamente mais ajuda do que mães sem sintomatologia depressiva clinicamente relevante;

- *Barreiras percebidas na procura de ajuda*: as **barreiras estruturais** (e.g., não ter tempo para participar numa intervenção psicológica) foram as barreiras mais reportadas pelas mães para não procurar ajuda; mães com sintomatologia depressiva clinicamente relevante percecionaram mais barreiras de todos os tipos (i.e., estruturais, atitudinais e de conhecimento) do que mães sem sintomatologia depressiva clinicamente relevante;

- *Conhecimento relativamente a intervenções parentais baseadas na parentalidade mindful*: cerca de **40.2%** das mães revelou ter ouvido falar de **parentalidade mindful**, tendo a **maioria** relatado que **aplicava** os princípios da parentalidade mindful na relação com o seu bebé (77.6%); não foram encontradas diferenças entre grupos de sintomatologia em termos do conhecimento e aplicação dos princípios da parentalidade mindful à relação mãe-bebé;

- *Aceitabilidade*: a maioria das mães referiu considerar **útil** uma intervenção parental que as ajudasse a lidar com as suas dificuldades emocionais na relação com o bebé ou no desempenho do seu papel parental, sendo que **94.5%** considerou **muito útil** uma intervenção parental baseada na parentalidade mindful e **78%** das mães mostrou-se **disponível** para participar numa intervenção deste tipo; mães com sintomatologia depressiva clinicamente relevante consideraram mais útil e estariam mais disponíveis para participar numa intervenção deste tipo;

- *Preferências*: seria mais provável as mães participarem numa intervenção se esta fosse divulgada por um **psicólogo** ou por um **obstetra**; a maioria das mães reportou preferir uma intervenção com uma média de **10 sessões**, numa **frequência semanal**, e uma **duração** de cada sessão entre os **45** e **60 minutos**; mães com sintomatologia depressiva clinicamente relevante relatou preferir, em média, mais uma sessão do que mães sem sintomatologia depressiva clinicamente relevante; a maioria das mães referiu preferir **levar o bebé** consigo para as sessões de intervenção ao invés de o deixar com algum familiar ou na creche; a maioria das mães selecionou os **centros de saúde** como o local preferido para participar numa intervenção parental; e a maioria das mães mencionou o **primeiro mês de vida do bebé** como sendo a altura indicada para iniciar a intervenção.

Relativamente aos **conteúdos da intervenção**, as mães reportaram preferir uma intervenção que as ensine a **compreender melhor** as **emoções** e os **comportamentos** do **bebé**, e aprender novas **estratégias** para **lidar** com o seu **stress parental**; as mães com sintomatologia depressiva clinicamente relevante consideraram, significativamente, mais útil uma intervenção parental incluir informação sobre como ser menos autocrítico no papel parental, e como aprender

novas estratégias para melhor lidar com o stress parental, do que as mães sem sintomatologia depressiva clinicamente relevante.

Por fim, no **Estudo Empírico VI**, pretendemos implementar e avaliar a viabilidade, aceitabilidade e evidência preliminar de eficácia do Mindful Moment. Os principais resultados obtidos foram os seguintes:

- Cerca de **21.2%** das mães do grupo experimental completaram o Mindful Moment;

- A maioria das mães avaliou o programa como **bom** ou **excelente** (90%), considerou que o Mindful Moment lhes proporcionou o **tipo de ajuda** que **esperavam** ou **desejavam** (61%), ficou **satisfeita** com a ajuda fornecida pelo programa (74.6%), **recomendá-lo-ia** a uma amiga numa situação semelhante (86.4%) e **utilizá-lo-ia novamente**, se necessário (81.4%).

- As mães do grupo experimental apresentaram uma maior **diminuição** do **stress parental** (resultado primário), um maior **aumento** do **mindfulness disposicional** e uma maior **diminuição** da **perceção do temperamento do bebé como difícil** (resultados secundários), do período pré-intervenção para o período pós-intervenção, em comparação com o grupo de controlo.

No seu conjunto, estes resultados suportam a aceitabilidade das mães relativamente a intervenções parentais baseadas na parentalidade mindful e compassiva e providenciam algumas pistas relativamente às características e conteúdos a considerar no desenvolvimento deste tipo de intervenções (Estudo Empírico V). Por fim, os resultados sugerem que o Mindful Moment é um programa viável e aceitável para mães no período pós-parto que sofrem de stress parental e fornecem provas preliminares da eficácia do Mindful Moment em algumas variáveis (Estudo Empírico VI).

A discussão geral dos resultados será, essencialmente, organizada em três níveis, de acordo com as três fases do projeto de investigação e respetivos objetivos. Sempre que se considerar necessário serão detalhados a Revisão Sistemática da Literatura e/ou os estudos empíricos desenvolvidos, de forma a proporcionar uma compreensão global do conhecimento.

1.1. Parentalidade mindful e compassiva no período pós-parto: Conhecer os programas de intervenção existentes

Um melhor conhecimento sobre as intervenções psicológicas parentais baseadas na parentalidade mindful e compassiva aplicadas no período pós-parto, pareceu-nos ser útil para o

desenvolvimento de uma nova intervenção deste tipo. Assim, como ponto de partida deste trabalho de investigação, foi desenvolvida uma revisão sistemática da literatura que, embora não tenha permitido retirar conclusões acerca da eficácia das intervenções, permitiu rever e sintetizar, compreensivamente, os tipos e as características das intervenções existentes e as estratégias terapêuticas utilizadas, permitindo, assim, retirar pistas para o desenvolvimento de novas intervenções neste contexto, incluindo o Mindful Moment.

Em primeiro lugar, esta revisão incluiu sete intervenções distintas, descritas em nove estudos empíricos, aplicadas nos primeiros anos do bebé, incluindo no período pós-parto, o que revelou a escassez de intervenções focadas na promoção de competências parentais e na qualidade do cuidado parental nesta fase desenvolvimental. Este resultado é congruente com a literatura atual que refere que a aplicação de conceitos e terapias cognitivo-comportamentais de terceira geração aplicadas à parentalidade ainda é muito recente (Ahemaitijiang et al., 2021; Moreira et al., 2019), particularmente, no período pós-parto. Apesar disso, os estudos incluídos nesta revisão foram realizados em diferentes países, com diferentes contextos culturais, o que sugere a ampla possibilidade de aplicação e interesse em intervenções parentais baseadas na parentalidade mindful e compassiva. Contudo, não foram identificados estudos desenvolvidos em Portugal, o que reforça a necessidade de investimento no desenvolvimento de intervenções parentais para o período pós-parto no nosso país, focadas na promoção de competências parentais e na qualidade do cuidado parental.

Segundo, as intervenções incluídas na presente revisão sistemática foram desenvolvidas em diversas populações, clínicas e não clínicas, indicando que as mesmas podem ser aplicáveis a populações com diferentes características. A maioria dos estudos incluídos foi conduzida com díades mãe-bebé e o pai não participou nas intervenções. Uma vez que a literatura prévia tem indicado que a participação dos pais nas intervenções parentais apresenta benefícios para o bebé e desenvolvimento da criança (Alio, 2017; Henry et al., 2019), é fundamental compreender que estratégias podem aumentar o seu envolvimento e a sua aceitabilidade relativamente a estas intervenções (Tully et al., 2018). Quase todos os estudos relataram que o bebé/criança esteve presente nas sessões de intervenção, quer em algumas, quer em todas as sessões, o que de acordo com a literatura existente, parece trazer inúmeros benefícios, na medida em que a presença do bebé na intervenção parental permite que os pais coloquem em prática a abordagem mindful, logo na sessão, o que facilita a generalização das aprendizagens para o contexto de vida real (Potharst et al., 2017; Townshend & Caltabiano, 2019). O método de administração em grupo, com uma duração de intervenção de oito a 12 sessões (duas horas cada), numa frequência semanal, foram as características mais comuns entre as intervenções identificadas nesta revisão.

Importa realçar que as taxas de participação relativamente elevadas nas intervenções com estas características, poderão indicar que tais deverão ser consideradas pistas essenciais para o desenvolvimento de futuras intervenções. A maioria dos facilitadores das intervenções eram especialistas em saúde mental ou equipas multidisciplinares, com formação específica na área de intervenção, o que nos alerta para a necessidade de formação específica de profissionais na intervenção com pais (Kaiser & Hancock, 2003).

No que respeita à abordagem e às componentes utilizadas nas intervenções, quase todas as intervenções eram baseadas no mindfulness, ou utilizaram componentes de mindfulness e outras abordagens complementares (baseadas na compaixão ou não), adaptadas ao contexto parental e aos primeiros anos de vida do bebé. Embora as intervenções tenham revelado resultados parentais positivos, é difícil compreender quais os componentes que contribuíram, claramente, para tal (se foram os componentes do mindfulness, da compaixão, ou os componentes complementares utilizados). Este resultado realça a necessidade de estudos futuros se centrarem na compreensão dos componentes e mecanismos-chave que promovem as competências parentais e a qualidade dos cuidados parentais.

Por fim, as intervenções dos estudos incluídos nesta revisão sistemática utilizaram diferentes estratégias terapêuticas que visavam alcançar os objetivos terapêuticos estabelecidos. Especificamente, as intervenções incluíram atividades desenvolvidas nos programas padrão, que serviram de base científica (e.g., TPM), mas com adaptações à parentalidade, incluindo no período pós-parto. Todas as intervenções incluíram meditações formais e informais com base no mindfulness; além disso, algumas intervenções incluíram jogos interativos (e.g., Alhusen et al., 2017), discussão em grupo (e.g., Meschino et al., 2015) e atividades de trabalho de casa (e.g., Poehlmann-Tynan et al., 2020). Embora estas estratégias terapêuticas estejam associadas a resultados parentais positivos, dada a heterogeneidade dos modelos de parentalidade mindful e compassiva que foram praticados, torna-se difícil compreender que aspetos são responsáveis por promover as competências parentais e facilitar relações positivas e seguras entre pais/mães-bebés - dificuldade encontrada também em revisões sistemáticas anteriores (e.g., Townshend et al., 2016).

De um modo geral, os resultados desta revisão sistemática sugerem que as intervenções parentais baseadas na parentalidade mindful e compassiva aplicadas no período pós-parto estão associadas à promoção de competências parentais positivas. Além disso, estas intervenções mostraram-se associadas à promoção da qualidade dos cuidados ao bebé e da relação mãe/pai-bebé. Poderá supor-se que os pais que participaram numa intervenção que tem como objetivo a promoção de uma parentalidade mindful e compassiva, em formato grupal, se sentem menos sós nas dificuldades que experienciam no exercício da sua parentalidade, podendo sentir-se

tranquilizados pelo facto de outros pais também experienciarem dificuldades semelhantes (Potharst et al., 2019). Tal poderá promover um sentido de humanidade comum, assim como uma maior aceitação das suas emoções e regulação emocional (Neff, 2003). Também as práticas de mindfulness ajudam os pais a quebrar a tendência habitual de preocupação excessiva com os filhos (o que pode interferir com a atenção que lhes é prestada), promovendo interações positivas entre pais e filhos e a qualidade da relação. As práticas de mindfulness podem permitir aos pais reconhecer os padrões da mente e lidar com a sua tendência para estar em piloto automático (Hughes et al., 2009; Siegel & Hartzell, 2013), o que, consequentemente, lhes poderá permitir ser mais sensíveis, recetivos e plenamente presentes na relação parental.

Por fim, e em termos práticos, os resultados desta revisão sistemática permitiram retirar algumas pistas para o desenvolvimento do Mindful Moment. Ainda que o contexto pandémico nos tenha impedido de desenvolver uma intervenção parental presencial, em formato grupal, esta revisão permitiu compreender algumas características das intervenções existentes e, especialmente, as estratégias terapêuticas utilizadas, que ajudaram a guiar o desenvolvimento do programa online apresentado neste trabalho de investigação. Para além do conhecimento sobre as intervenções parentais existentes, baseadas na parentalidade mindful e compassiva, aplicadas no período pós-parto, esta revisão foi essencial para compreender algumas variáveis-chave, relacionadas com esta abordagem parental e que poderão ser alvo de intervenções futuras com esta população.

1.2. Que fatores e mecanismos-chave estão associados à parentalidade mindful e compassiva no período pós-parto, antes e durante a pandemia de COVID-19?

Para que uma parentalidade mindful e compassiva possa ser promovida é necessário compreender que fatores e mecanismos-chave desempenham um papel importante nesta abordagem parental. Além disso, importa conhecer o próprio papel da parentalidade mindful e compassiva no estabelecimento da relação mãe-bebé. Uma vez que este trabalho de investigação foi desenvolvido antes e durante a atual pandemia de COVID-19, os nossos estudos pretenderam explorar variáveis no contexto pré- e pós-pandémico, para que as implicações deste trabalho pudessem ir de encontro às necessidades atuais e futuras.

Em primeiro lugar, no seu conjunto, os resultados deste trabalho de investigação salientam o papel do **stress parental** enquanto fator e mecanismo adverso, quer para o funcionamento

parental, dificultando a adoção de uma parentalidade mindful, quer para o estabelecimento de uma ligação mãe-bebé funcional.

O Estudo Empírico I, desenvolvido antes da pandemia, contribuiu com conhecimento inovador acerca do papel do stress parental na parentalidade, no período pós-parto. O stress parental revelou-se um mecanismo adverso para a adoção de uma abordagem mindful na parentalidade, o que está de acordo com estudos anteriores (e.g., Emerson et al., 2021b; Zeegers et al., 2019). De facto, o stress parental parece estar associado a uma parentalidade disfuncional (Abidin, 1992) - as mães que experienciam níveis elevados de stress parental tendem a reagir automaticamente nas interações com os seus filhos e tendem a ter mais dificuldades de autorregulação (Bögels & Restifo, 2014), o que pode dificultar a adoção de uma abordagem mindful e compassiva na parentalidade.

Durante a pandemia, os resultados encontrados foram no mesmo sentido (como demonstrado nos Estudos Empíricos II e III), demonstrando o papel preditor do stress parental na ligação mãe-bebé, em que níveis mais elevados de stress parental se encontraram associados a uma ligação mãe-bebé mais disfuncional. Estes resultados são consistentes com estudos prévios que mostraram que as mães que apresentam níveis mais elevados de stress parental, ao reagir automaticamente em situações parentais (Bögels & Restifo, 2014) e ao ter o seu sistema de ameaça-defesa ativado mais frequentemente (Siegel & Hartzell, 2013), poderão ser mais reativas e menos sensíveis durante as interações com o bebé, resultando assim numa ligação emocional mais disfuncional entre ambos (e.g., Cohen & Shulman, 2019).

No Estudo Empírico II, para além do stress parental, também a **parentalidade mindful** se revelou um preditor significativo da ligação mãe-bebé. Ou seja, níveis mais baixos de stress parental e níveis mais elevados de algumas dimensões da parentalidade mindful (i.e., *escutar com atenção plena*, *autorregulação na relação parental* e *compaixão pela criança*) mostraram-se associados a uma ligação mãe-bebé mais funcional. Importa referir que estas variáveis parecem ser mais importantes na explicação da ligação mãe-bebé, do que sintomas psicopatológicos da mãe (i.e., sintomas depressivos e ansiosos) e variáveis contextuais, tais como variáveis relacionadas com a pandemia de COVID-19 e, por isso, deverão, possivelmente, ser priorizadas e tidas em consideração na investigação e prática clínica futura com esta população. Em primeiro lugar, estes resultados são consistentes com outros estudos, que mostraram que uma parentalidade mindful ajuda os pais a tornarem-se mais atentos aos seus filhos, a estar conscientes do que comunicam e a estar plenamente presentes durante as interações com os mesmos (*escutar com atenção plena*; Emerson et al., 2021a). Por conseguinte, isto pode ter repercussões na disponibilidade emocional dos pais (Potharst et al., 2019) e, consequentemente, na ligação mãe-bebé. Da mesma forma, a parentalidade mindful permite aos pais tomar

consciência do seu stress parental, aceitá-lo e regulá-lo (Emerson et al., 2021b). Estudos demonstraram que a capacidade da mãe controlar as suas experiências internas permite uma resposta mais sintonizada e focada na criança, promovendo assim a ligação mãe-bebé (*autorregulação na relação parental*; Pickard et al., 2017). Da mesma forma, quando as mães são gentis, sensíveis e responsivas às necessidades do bebé têm o seu sistema de afiliação, calor e *soothing* estimulado (Cree, 2010), e isso poderá levar a que estejam mais disponíveis para focar a atenção no bebé, para se conectarem com o seu sofrimento e desconforto e para o protegerem de potenciais ameaças, o que facilitará o estabelecimento da ligação emocional com ele (*compaixão pela criança*; Moreira et al., 2021; Wada et al., 2020).

Por sua vez, no Estudo Empírico III, os nossos resultados vão mais além, explorando um modelo compreensivo complexo, que demonstrou que níveis mais elevados de autocompaixão predisseram uma ligação mãe-bebé menos disfuncional, através de dois mecanismos sequenciais (i.e., parentalidade mindful e stress parental). Os resultados sugerem que as mães que adotam uma atitude autocompassiva e de bondade são mais propensas a adotar uma atitude consciente, de bondade e compaixão na sua parentalidade, o que, por sua vez, as leva a experienciar níveis mais baixos de stress parental e, consequentemente, a dar respostas emocionais e cognitivas mais saudáveis ao seu bebé (i.e., a estabelecer uma ligação mãe-bebé mais funcional). A parentalidade mindful, que aparenta ser promovida por uma maior autocompaixão materna, parece contribuir para uma ligação mãe-bebé mais funcional, interrompendo, especificamente, o efeito negativo do stress parental. Embora, de acordo com o nosso conhecimento, este tenha sido o primeiro estudo a explorar a relação entre estas variáveis, numa amostra de mães portuguesas, no período pós-parto, já se encontra bem estabelecido na literatura a relação entre a parentalidade mindful e o stress parental. De facto, pais/mães mindful ou conscientes são mais capazes de se autorregular durante as interações com os seus filhos, ou seja, de parar e escolher, propositadamente, práticas parentais que estejam de acordo com os seus valores e objetivos parentais, em vez de reagir automaticamente ao comportamento da criança (Duncan et al., 2009). Além disso, os pais/mães mindful tendem a exibir uma atitude de maior calor e apoio na relação com os seus filhos (Gouveia et al., 2016), sendo sensíveis e responsivos às necessidades da criança (Potharst et al., 2021). Por conseguinte, espera-se que a adoção de uma abordagem mindful na parentalidade conduza a níveis mais baixos de stress parental e que ambos possam facilitar o estabelecimento de uma ligação mãe-bebé mais funcional.

Os resultados da presente dissertação sugerem também que a **sintomatologia depressiva** e **ansiosa** maternas parece ter um efeito adverso no funcionamento parental e na relação mãe-bebé.

Antes da pandemia, níveis elevados de sintomatologia depressiva e ansiosa maternas, no período pós-parto, mostraram-se associados a níveis mais baixos de parentalidade mindful [Estudo Empírico I]. Estes resultados poderão ser compreendidos na medida em que as mães que experienciam sintomas depressivos podem experienciar um maior número de pensamentos ruminativos (APA, 2014), e isso poderá interferir com o modo de resposta consciente nas interações com os seus filhos. De acordo com os resultados de outros estudos (Berryhill, 2016; Kleiman, 2019; Swain & Ho, 2017), este ciclo de pensamentos negativos e repetitivos poderá dificultar a capacidade das mães se descentrarem ou distanciarem destes pensamentos. Isto fará com que tenham menos espaço mental disponível para focar a sua atenção nos filhos durante as interações parentais, provavelmente, tornando-se menos sensíveis e sincronizadas com as necessidades deles (e.g., Moreira & Canavarro, 2018). No mesmo sentido, foi demonstrado que mães que experienciam níveis elevados de sintomas ansiosos estão predispostas a focar a sua atenção, seletivamente, em ameaças, o que exige a utilização de recursos de processamento limitados (Walsh et al., 2009). Além disso, estas mães tendem a centrar, excessivamente, a sua atenção em si próprias e nos seus próprios sintomas, o que pode interferir com a sua capacidade de direcionar a atenção para os seus filhos (Webb & Ayers, 2015), de ler corretamente as suas pistas comportamentais, de ter uma perceção precisa da sua comunicação verbal e não verbal, e de responder às suas necessidades e emoções de forma sensível (Duncan et al., 2009). Por conseguinte, podemos colocar a hipótese de que as mães que experienciam níveis mais elevados de sintomas depressivos e/ou sintomas ansiosos têm menos recursos disponíveis para manter o foco da atenção no momento presente, particularmente quando interagem com os seus bebés, o que interfere, negativamente, com a adoção de uma abordagem mindful e compassiva na parentalidade.

Em consonância com os resultados obtidos durante o período pré-pandemia, também durante a pandemia se verificou uma associação negativa entre a sintomatologia depressiva e ansiosa da mãe e a parentalidade mindful. Especificamente, no Estudo Empírico IV, explorámos um modelo inovador, que revelou que níveis mais elevados de autocompaixão se encontraram associados a níveis mais elevados de parentalidade mindful, e que esta associação foi mediada por níveis mais baixos de sintomatologia ansiosa materna, experienciada no período pós-parto. Embora a autocompaixão se tenha associado positivamente à parentalidade mindful e negativamente à sintomatologia depressiva e ansiosa da mãe, os nossos resultados indicaram que o efeito da autocompaixão sobre a parentalidade mindful aconteceu apenas através da experiência materna de sintomatologia ansiosa, e não através da sintomatologia depressiva. Portanto, parece que ter níveis mais elevados de autocompaixão pode estar associado a uma diminuição dos sintomas ansiosos relacionados com a parentalidade e a relação mãe-bebé, no

período pós-parto, o que, por sua vez, facilita a adoção de uma abordagem mindful na parentalidade.

Estes resultados podem ser compreendidos tendo em conta vários aspetos. Em primeiro lugar, neste estudo, para medir a sintomatologia ansiosa materna, utilizámos um instrumento de avaliação, especificamente, focado no período pós-parto (PSAS; Fallon et al., 2016; Moreira & Fonseca, 2022), sendo avaliadas questões específicas deste período, tais como a ansiedade relacionada com a competência parental e relação mãe-bebé, segurança e bem-estar do bebé, prestação de cuidados ao bebé e adaptação psicossocial à maternidade (Fallon et al., 2016). Por outro lado, para avaliar a sintomatologia depressiva materna, utilizámos a EPDS (Cox et al., 1987; Figueiredo, 1997) que se trata de um instrumento de avaliação constituído por questões gerais para avaliar os níveis de sintomas depressivos experienciados pelas mães. De facto, podemos assumir que a diferença entre os níveis de especificidade destes dois instrumentos de avaliação poderá ter influenciado os resultados obtidos. Em segundo lugar, a literatura científica prévia sugeriu um padrão neurobiológico distinto para a experiência de sintomas ansiosos e sintomas depressivos no período pós-parto, em comparação com outros períodos da vida da mulher (Pawluski et al., 2017). No que respeita aos sintomas ansiosos, e de acordo com a perspetiva da Psicologia Evolucionária, pode afirmar-se que os indivíduos que podiam detetar rapidamente potenciais ameaças no meio ambiente e reagir-lhes automaticamente, tinham mais probabilidades de sobreviver; da mesma forma adotar um estilo parental reativo pode ter ajudado os nossos antepassados a melhor proteger os seus filhos. Esta reação rápida e automática às ameaças percebidas foi, claramente, vantajosa no passado evolucionário, quando a vida era caracterizada por várias ameaças (Ellis & Del Giudice, 2019). Atualmente, podemos supor que o contexto pandémico pode ser considerado uma ameaça para as mães, levando-as a reagir automaticamente no desempenho do seu papel parental e na prestação de cuidados aos seus bebés, interferindo negativamente com a adoção de uma abordagem mindful na parentalidade. Por outro lado, a experiência de sintomas depressivos está associada a uma falta de controlo cognitivo sobre estados emocionais (Messina et al., 2016), resultando numa forma ruminativa de pensamento, falta de energia, incapacidade de concentração, sentimentos de inutilidade ou culpa excessiva e uma perda de prazer ou interesse geral (APA, 2014), com menor interferência na parentalidade mindful, quando também se experienciam sintomas ansiosos relacionados com o período pós-parto. Por fim, de um modo geral, a sintomatologia ansiosa e depressiva podem ser distinguidas considerando a orientação temporal. Por um lado, parece que as mães que experienciam sintomas ansiosos se encontram orientadas e concentradas no futuro (APA, 2021), enquanto que as mães que experienciam sintomas depressivos tendem a focar a sua atenção em acontecimentos passados (Shipp & Aeon, 2019). Pode ser, então, levantada a hipótese de que

durante a pandemia, especialmente durante um período de elevadas restrições relacionadas com a mesma, a autocompaixão poderá ajudar as mães a adotar uma abordagem mais calorosa, emocionalmente sintonizada e compassiva na parentalidade, primeiro, ajudando as mães a estar no momento presente, ao invés do momento futuro (mais do que as ajudando a descentrar a sua atenção de eventos passados). Além disso, a autocompaixão parece ter ajudado as mães a adotar uma atitude mais calorosa em relação aos seus eventuais fracassos e limitações como mães, atenuando, especificamente, a resposta de ameaça do cérebro da mãe, especialmente, no que respeita a ameaças relacionadas com situações de parentalidade e a relação mãe-bebé, ao invés de sintomas depressivos maternos.

Globalmente, os resultados da presente dissertação sugerem, então, que a **autocompaixão** materna parece ter efeitos positivos no funcionamento parental e na relação mãe-bebé.

Especificamente, a autocompaixão das mães mostrou-se significativa e positivamente associada à parentalidade mindful, o que está de acordo com estudos anteriores (e.g., Nguyen et al., 2020). As mães mais autocompassivas tendem a manter os seus pensamentos e emoções dolorosas numa consciência equilibrada (Neff, 2003) e a adotar uma atitude mais atenta e acolhedora para com eles. Além disso, mães autocompassivas tendem a culpar-se menos frequentemente pelos seus comportamentos parentais, uma vez que têm um maior sentido de humanidade comum e níveis mais elevados de autobondade (Potter et al., 2014; Sirois et al., 2019), o que as poderá ajudar a reconhecer que todos os seres humanos são imperfeitos, falham e sofrem, bem como a aceitar, de uma forma não julgadora, as suas limitações e os seus erros no seu papel de mães (Bohadana et al., 2021). Isto poderá aumentar a sua capacidade de se descentrarem e de não se identificarem demasiado com pensamentos negativos sobre os seus filhos e o seu papel parental (Gouveia et al., 2016), e facilitar a adoção de uma atitude mais bondosa e calorosa na parentalidade.

Além disso, os nossos resultados mostraram também que as mães autocompassivas e que adotaram uma abordagem mindful na sua parentalidade experienciaram níveis mais baixos de stress parental [Estudo Empírico III]. As mães autocompassivas e mindful parecem ser mais capazes de fazer uma pausa antes de responder a uma situação, incluindo uma situação indutora de stress parental, e de focar a sua atenção na sua experiência atual de parentalidade (Duncan et al., 2009). Isto pode permitir-lhes avaliar melhor os sinais do bebé e responder-lhes de forma sensível (Potharst et al., 2021), diminuindo a experiência de stress parental. Durante a atual pandemia, que parece ser um grande fator de stress para as mães que se encontram no período pós-parto, a adoção de uma atitude autocompassiva e a consequente adoção de uma abordagem mindful na parentalidade pode ser, particularmente, relevante (Thapa et al., 2020).

De acordo com estudos anteriores, conduzidos no período pós-parto (e.g., Monteiro et al., 2019), os resultados da presente dissertação mostraram ainda que a autocompaixão se associou a níveis mais baixos de sintomatologia depressiva e ansiosa. Este resultado pode ser compreendido através de vários aspetos. Primeiro, as mães com níveis mais elevados de autocompaixão são mais capazes de ativar o sistema de afiliação, calor e *soothing* (Gilbert, 2014), o que poderá ajudá-las a regular melhor as suas emoções negativas e, por exemplo, a sentirem-se menos afetadas pelos desafios da parentalidade (e.g., Garcia et al., 2021). Além disso, pode ser levantada a hipótese de que as mães autocompassivas poderão lidar com emoções desafiantes com um maior grau de compreensão e cuidado para consigo mesmas, o que poderá levar a que experienciem níveis mais baixos de sintomas psicopatológicos (Carona et al., 2022).

No seu conjunto, os resultados sugerem que a autocompaixão pode ser, particularmente, importante na promoção de uma parentalidade mindful e na redução do stress parental [Estudo Empírico III] e da sintomatologia ansiosa materna [Estudo Empírico IV], devendo, por isso, ser promovida em mães no período pós-parto, durante a pandemia, mas também para além do contexto pandémico.

Importa ainda realçar o papel da **perceção do temperamento do bebé** no funcionamento parental e na relação mãe-bebé. No período pré-pandémico, uma perceção materna do temperamento do bebé como difícil parece interferir negativamente com a adoção de uma parentalidade mindful [Estudo Empírico I]. As mães que percecionaram o temperamento do bebé como difícil apresentaram níveis significativamente mais elevados de stress parental e níveis mais baixos de parentalidade mindful, em comparação com as mães que percecionaram o temperamento do bebé como mais fácil, o que está de acordo com a literatura prévia (e.g., Oddi et al., 2013). De facto, espera-se que um bebé mais exigente e irritável provoque emoções nos pais de raiva e ansiedade, dificulte o contacto e estimulação nas interações parentais (Putnam et al., 2002) e gere stress parental (Moe et al., 2018). Além disso, em situações indutoras de stress parental, os pais de um bebé difícil de acalmar têm maior probabilidade de responder de uma forma hostil e punitiva, em vez de responderem com afeto positivo (e.g., Cha, 2018). Estes pais podem ser mais propensos a concentrar a sua atenção na satisfação das necessidades imediatas do bebé (e.g., sono ou amamentação) para o acalmar, do que a estar plenamente atentos quando interagem com ele. Por conseguinte, podemos colocar a hipótese de que ter um bebé com um temperamento difícil pode promover, nos pais, o "modo fazer", em vez do "modo ser" (i.e., o modo consciente ou mindful; Williams, 2008), impedindo, consequentemente, que adotem uma postura mindful na parentalidade.

No modelo compreensivo explorado no Estudo Empírico I, o stress parental explicou a associação entre a perceção materna do temperamento do bebé e a parentalidade mindful. Estes resultados parecem sugerir que as mães com uma perceção do temperamento do bebé como difícil podem ter mais dificuldade em reconhecer e responder às necessidades do bebé e adotar uma abordagem mindful na parentalidade. No entanto, os resultados indicam que é a associação entre a perceção do temperamento do bebé mais como mais difícil e a crença de falta de competências para o desempenho do seu papel parental (i.e., stress parental; McBride et al., 2002; Oddi et al., 2013) que pode fazer com que estas mães tenham uma maior dificuldade em focar a sua atenção no bebé e estar plenamente presentes nas interações com ele (Gouveia et al., 2019). Além disso, a crença de que não possuem recursos suficientes para lidar com as exigências do bebé, característica do stress parental, poderá levar a que se julguem, mais facilmente, por não se considerarem competentes no desempenho do papel parental, tornando mais difícil a aceitação da experiência e dos desafios inerentes à parentalidade, dificultando o seu envolvimento numa atitude calorosa, sensível e responsiva às necessidades do seu bebé. Assim, é, especialmente, importante intervir com mães que percecionam o temperamento do bebé como difícil para que aprendam a ser mais sensíveis e responsivas nas interações parentais (Larkin & Otis, 2019).

Por fim, os resultados obtidos neste trabalho de investigação permitem-nos concluir que, durante um período de restrições mais elevadas relacionadas com a **pandemia**, as mães apresentaram níveis mais elevados de sintomatologia depressiva, maior dificuldade em adotar uma parentalidade mindful, em estabelecer uma ligação mãe-bebé funcional, e em ser autocompassivas.

Em primeiro lugar, mães que deram à luz durante a pandemia, apresentaram níveis significativamente mais baixos de parentalidade mindful – dimensão *consciência emocional da criança* - e uma ligação mãe-bebé mais disfuncional, em comparação com mães que deram à luz antes da pandemia [Estudo Empírico II]. De facto, é possível que a parentalidade mindful, tal como um traço de mindfulness, demonstre estabilidade ao longo do tempo (Coatsworth et al., 2018), e não se altere de acordo com fatores contextuais, tais como o contexto pandémico. Isto pode explicar porque é que as mães que deram à luz antes e durante a pandemia apresentaram resultados semelhantes na maior parte das dimensões da parentalidade mindful. No entanto, a *consciência emocional da criança* parece ser menor nas mães que deram à luz durante o contexto pandémico. De facto, durante este período, as mães podem ter tido a sua atenção mais focada no medo e perigo de uma doença desconhecida e respetivas consequências (Centros de Controlo e Prevenção de Doenças [CDC], 2020), o que poderá tê-las deixado menos capazes de se

descentrar das suas próprias emoções e de focar a sua atenção nas emoções do bebé. Além disso, os bebés que nasceram durante a pandemia são, significativamente, mais novos do que os que nasceram antes da pandemia. Para além do facto dos primeiros meses no período pós-parto apresentarem um carácter mais desafiante, as mães de bebés mais pequenos tiveram um tempo mais reduzido para interagir com eles comparativamente às mães de bebés mais velhos, podendo, assim, sentir mais dificuldade em reconhecer e identificar as suas emoções (Kristensen et al., 2018). O contexto pandémico pode, ainda, ter provocado um sentimento de culpa e perda perante as alegrias e satisfações esperadas da maternidade (e.g., contacto com o bebé no pós-parto imediato; visitas de familiares e entes queridos; Das, 2020), que pode ter tido um efeito negativo na disponibilidade da mãe para se ligar emocionalmente ao seu bebé e estabelecer uma ligação emocional funcional com ele.

O Estudo Empírico III, desenvolvido no período pós-pandemia, incluía dois momentos de avaliação, um período de elevadas restrições associadas à pandemia (T1) e um período de desconfinamento (T2). Os nossos resultados mostraram que entre o T1 e o T2 se verificou uma diminuição da sintomatologia depressiva materna, um aumento significativo da autocompaixão materna e uma ligação mãe-bebé mais funcional. Em primeiro lugar, os níveis mais elevados de sintomatologia depressiva no T1 são consistentes com os resultados de estudos anteriores realizados com mães no período pós-parto, durante a pandemia, mostrando que o confinamento e restantes medidas restritivas relacionadas com a pandemia tiveram um impacto negativo na saúde mental materna, potenciando a experiência de sintomas depressivos (Zanardo et al., 2020). Gradualmente, o levantamento das medidas restritivas permitiu que as mães regressassem a um "novo normal" e retomassem as suas rotinas diárias, aumentando, por exemplo, o seu contacto presencial com outras mães e pessoas significativas. Além disso, a abertura de serviços educativos e sociais (e.g., creches) pode ter facilitado a prestação de cuidados ao bebé. Estas mudanças podem ter tido um impacto positivo na saúde mental materna e, em particular, na experiência de sintomas depressivos. Por sua vez, tais mudanças poderão também ter levado as mães a sentir-se mais capazes de ser autocompassivas e emocionalmente disponíveis para prestar cuidados ao seu bebé. No período de maiores restrições pandémicas, a necessidade de isolamento social e a consequente falta de apoio instrumental (e.g., ajuda na realização de tarefas domésticas e prestação de cuidados ao bebé) pode ter levado as mães a sentirem-se sobrecarregadas no seu papel parental, dificultando a sua capacidade de aceitar os seus erros e falhas no exercício da parentalidade e a sua capacidade de adotar uma atitude autocompassiva e de aceitação em relação a si mesmas. Além disso, é possível que durante este período, as mães possam não ter obtido o nível esperado de apoio e cuidados no seu pós-parto (Jackson et al., 2021), e tenham estado mais preocupadas com a sua saúde e saúde do bebé (e.g., medo de contrair COVID-19), o

que poderá tê-las deixado mais focadas no futuro (Vieira et al., 2020) e menos atentas ao momento presente nas interações parentais. Isso poderá ter interferido, negativamente, na sua disponibilidade emocional para prestar cuidados ao bebé e para estabelecer uma ligação emocional com ele.

Por fim, na terceira vaga da pandemia em Portugal, verificámos que a maioria das mães relatou ter sentido um impacto emocional negativo da pandemia no período pós-parto (79.5%), sendo que estas mães apresentaram níveis mais elevados de sintomatologia depressiva e ansiosa e níveis mais baixos de autocompaixão e parentalidade mindful, comparativamente às mães que relataram não ter sentido um impacto emocional negativo da pandemia. Estes resultados vão ao encontro de estudos prévios, conduzidos durante a pandemia, sugerindo que as mudanças e incertezas desencadeadas pelas medidas restritivas relacionadas com a pandemia podem ter tido um impacto psicológico no bem-estar e na saúde mental da população, estando associadas a um aumento dos sintomas psicopatológicos (e.g., sintomas depressivos e ansiosos; Killgore et al., 2020; Passavanti et al., 2021). Por sua vez, é mais provável que as mães que percecionaram um impacto negativo da pandemia na experiência do seu pós-parto tenham o seu sistema de ameaça-defesa mais facilmente ativado, o que impede a ativação do sistema de afiliação, calor e *soothing*, que lhes permitiria sentirem-se mais calmas (Gilbert, 2009) e adotar uma atitude calorosa e compassiva para consigo mesmas. Tal poderá explicar os níveis baixos de autocompaixão materna destas mães. Além disso, terem a sua atenção mais focada nas ameaças, medos e nas suas emoções negativas poderá, possivelmente, não permitir que se desliguem dos seus próprios pensamentos e impedir que estejam totalmente atentas aos sinais, emoções e necessidades do bebé. Consequentemente, estas mães podem ser menos capazes de responder, sensivelmente, ao bebé, de se autorregularem nas interações com ele e, de uma forma geral, adotar uma parentalidade mindful (Duncan et al., 2009).

Em suma, os nossos resultados salientam a importância de alguns fatores e mecanismos-chave que nos ajudam a compreender a parentalidade e a relação mãe-bebé no período pós-parto. Como fatores e mecanismos adversos identificámos o stress parental, a sintomatologia psicopatológica materna (i.e., sintomatologia depressiva e ansiosa) e a perceção materna do temperamento do bebé como difícil, que deverão ser alvos de atenção futura, quer na investigação como na prática clínica. Como fator promotor de uma parentalidade mindful e compassiva e uma ligação mãe-bebé funcional, identificámos a autocompaixão materna. Além disso, estes resultados ajudaram-nos a guiar o desenvolvimento de uma intervenção baseada na parentalidade mindful e compassiva - o Mindful Moment - e a estabelecer os seus objetivos e estratégias terapêuticos.

1.3. Mindful Moment: Um programa de parentalidade mindful e compassiva para mães de bebés

Um dos contributos inovadores do presente trabalho de investigação diz respeito ao desenvolvimento, implementação e avaliação de uma intervenção online, destinada a mães com níveis moderados ou elevados de stress parental (dado o seu papel crucial na parentalidade e na relação mãe-bebé, discutido no ponto anterior da presente dissertação), realizado através dos Estudos Empíricos V e VI.

O Estudo Empírico V suportou a aceitabilidade das mães relativamente a intervenções parentais baseadas na parentalidade mindful e compassiva e providenciou algumas pistas, relativamente às suas preferências no que concerne às características, tanto em termos de formato como de conteúdo, a considerar no desenvolvimento deste tipo de intervenções. Algumas destas preferências foram tidas em consideração, sempre que possível, no desenvolvimento do Mindful Moment, ainda que adaptadas para o formato online.

Em primeiro lugar, importa referir que a maioria das mães que participou neste estudo relatou apresentar dificuldades emocionais no período pós-parto (55.1%), sendo que uma percentagem significativa dessas mães (39.4%) relatou que as dificuldades emocionais estavam relacionadas com dificuldades em cuidar do bebé e/ou desempenhar o papel de mãe. Este resultado enfatiza o carácter desafiante do período pós-parto no que diz respeito às tarefas de prestação de cuidados ao bebé e à aquisição ou adaptação ao papel parental (Johansson et al., 2020; Ramsayer et al., 2019). Particularmente, o facto de não terem sido verificadas diferenças entre as mães com e sem sintomatologia depressiva clinicamente relevante no que diz respeito às dificuldades emocionais relacionadas com os cuidados ao bebé e/ou desempenho do papel de mãe sugere que, independentemente da presença de sintomatologia depressiva, todas as mães experienciam dificuldades relacionadas com o bebé ou com o desempenho do papel parental, salientando o carácter transversal deste tipo de dificuldade no período pós-parto e a necessidade de intervenção com esta população (Chung et al., 2018; Eckstein et al., 2019).

Os nossos resultados revelaram ainda que apenas 24.2% das mães refere ter pensado pedir, ou pediu efetivamente ajuda devido às dificuldades sentidas na relação com o bebé e no desempenho do papel de mãe, com a ajuda psicológica a ocupar o segundo tipo de ajuda profissional procurada, seguindo-se à ajuda médica. De forma consistente com outros estudos (e.g., Loudon et al., 2016; O'Mahen & Flynn, 2008), as barreiras estruturais (e.g., não ter tempo para participar numa intervenção psicológica) foram as barreiras mais reportadas pelas mães para não procurar ajuda. De notar que uma maior proporção de mães com sintomatologia depressiva clinicamente relevante percecionou mais barreiras de todos os tipos (i.e., estruturais, atitudinais

e de conhecimento), em comparação com mães sem sintomatologia depressiva clinicamente relevante, indo ao encontro dos resultados obtidos em estudos prévios (e.g., Grissette et al., 2018).

Relativamente ao conhecimento e aceitabilidade das intervenções parentais baseadas na parentalidade mindful, cerca de 40.2% das mães revelaram ter ouvido falar de parentalidade mindful, tendo a maioria relatado que aplicava os princípios da parentalidade mindful na relação com o seu bebé. Adicionalmente, a maioria das mães referiu considerar útil uma intervenção parental que as ajudasse a lidar com as suas dificuldades emocionais na relação com o bebé ou no desempenho do seu papel parental, sendo que 94.5% considerou muito útil uma intervenção parental baseada na parentalidade mindful e 78% das mães mostrou-se disponível para participar numa intervenção deste tipo. As mães com sintomatologia depressiva clinicamente relevante consideraram mais útil e estariam mais disponíveis para participar nesta intervenção. De notar que, tendo em conta a literatura prévia, este resultado foi inesperado, uma vez que a maioria das mães com sintomatologia depressiva, ainda que possam sentir elevada necessidade, não está, habitualmente, interessada e disponível para participar em programas de intervenção (Dennis & Chung-Lee, 2006), sendo revelante retirar partido destes resultados no desenvolvimento de intervenções futuras.

Finalmente, este estudo identificou algumas preferências das mães relativamente a uma intervenção parental baseada na parentalidade mindful. Considerando a divulgação do programa, seria mais provável as mães participarem numa intervenção se esta fosse divulgada por um psicólogo ou obstetra, realçando a importância de promover a aceitabilidade das intervenções parentais baseadas na parentalidade mindful entre os profissionais de saúde que trabalham com mulheres no período perinatal, bem como de melhorar o seu conhecimento acerca deste tipo de intervenções e o seu papel crucial na divulgação das mesmas.

A maioria das mães referiu preferir uma intervenção com uma média de 10 sessões; com uma frequência semanal e uma duração de cada sessão entre os 45 e 60 minutos. Adicionalmente, a maioria das mães referiu preferir levar o bebé consigo para as sessões de intervenção, ao invés de o deixar com algum familiar ou na creche. Este resultado é muito importante devido aos inúmeros benefícios de ter o bebé na sessão de intervenção. Por um lado, ter o bebé presente na sessão permite que as mães coloquem em prática uma abordagem mindful na parentalidade logo na sessão, o que facilita a generalização das aprendizagens para o contexto de vida real (Townshend & Caltabiano, 2019) e, por outro lado, segundo Coo et al. (2018), a presença dos bebés nas sessões de grupo oferece aos clínicos a oportunidade de ajudar as mães a orientar o foco da sua atenção para as interações com o bebé e a refletir sobre o desenvolvimento da relação entre ambos. A maioria das mães referiu ainda que a altura indicada para começar a intervenção

seria o primeiro mês de vida do bebé. Este é um resultado compreensível, de acordo com a literatura prévia, que aponta os primeiros meses do período pós-parto como sendo particularmente desafiantes (Kristensen et al., 2018), durante os quais podem surgir mais dificuldades na relação com o bebé e na adaptação ao papel parental. No que respeita ao local preferido para participar numa intervenção parental, as mães selecionaram maioritariamente os centros de saúde. Em Portugal, durante os primeiros meses após o parto, o bebé e a mãe requerem uma monitorização regular e sistemática (e.g., vacinação; monitorização do peso do bebé; eventual apoio à amamentação), que é normalmente prestada no centro de saúde local, sendo a instituição de saúde mais visitada nos primeiros meses após o parto. Além disso, como os centros de saúde estão, normalmente, localizados em áreas residenciais, isso permitiria às mães poupar tempo e minimizar os custos (e.g., deslocações).

Considerando a perceção da utilidade de conteúdos específicos de intervenção, as mães reportaram preferir uma intervenção que as ensine a compreender melhor as emoções do bebé (i.e., se o bebé está feliz, frustrado, triste ou zangado) e os seus comportamentos, e a aprender novas estratégias para lidar com o seu stress parental. É importante notar que uma maior proporção de mães com sintomatologia depressiva clinicamente relevante considerou mais útil que a intervenção parental incluísse informação sobre como ser menos autocrítica no papel de mãe e sobre como aprender novas estratégias para lidar com o stress parental, em comparação com mães sem sintomatologia depressiva clinicamente relevante. Este resultado pode ser explicado pelo facto de, no período pós-parto, as mães que experienciam sintomas depressivos desenvolverem um estilo de pensamento autocrítico e ruminativo (Pedro et al., 2019) e níveis mais elevados de stress parental (Fredriksen et al., 2019; Molgora & Accordini, 2020), sentindo a necessidade de ajuda nesses aspetos em particular.

Uma vez que os resultados do Estudo Empírico V foram obtidos no período pré-pandemia, é importante que as suas implicações sejam interpretadas com precaução. Ainda assim, neste trabalho de investigação, desenvolvemos uma intervenção parental baseada na parentalidade mindful e compassiva, tendo em consideração algumas das preferências reveladas no Estudo Empírico V (e.g., frequência das sessões e duração de cada sessão; conteúdos específicos de intervenção a ser trabalhados).

De acordo com os resultados obtidos no Estudo Empírico VI, o Mindful Moment pode ser considerado um programa viável e aceitável para mães no período pós-parto que sofrem de stress parental, fornecendo provas preliminares da sua eficácia em alguns resultados. Em primeiro lugar, embora apenas 21.2% das participantes tenha completado o Mindful Moment, este resultado é congruente com estudos prévios de intervenções online no período pós-parto (Boekhorst et al.,

2021; Potharst et al., 2019) e em formato autoguiado (Monteiro et al., 2020). A maioria das mães referiu a falta de tempo como a principal razão para não completar a intervenção. De facto, este resultado pode ser compreendido à luz da exigência do período pós-parto, durante o qual as mães passam, geralmente, a maior parte do seu tempo a cuidar do seu bebé, a gerir rotinas familiares e tarefas profissionais, o que pode deixá-las com pouco tempo para si próprias ou para participar num programa de intervenção psicológica. Além disso, o carácter autoguiado do Mindful Moment pode ter facilitado a escolha das mães de investirem o seu tempo noutras tarefas, em vez de participarem no programa. É também importante considerar que o período de recrutamento deste estudo começou num período de elevadas restrições relacionadas com a pandemia em Portugal (DRE, 2021). Portanto, as mães que foram, inicialmente, recrutadas para o estudo encontravam-se em confinamento domiciliário e poderiam estar em regime de teletrabalho, a cuidar do seu bebé ou de outras crianças a tempo inteiro (uma vez que as escolas e jardins de infância estavam fechados), levando a que todas estas variáveis possam ter tornado mais difícil para as mães encontrar o tempo e a disponibilidade necessários para participar no Mindful Moment. Assim, podemos colocar a hipótese de que a taxa de adesão poderia ter sido diferente se o recrutamento de participantes não tivesse tido lugar durante a pandemia. Contudo, não podemos descartar a hipótese de que o Mindful Moment tenha sido pouco atrativo para a maioria das mães, levando-as a não completar o programa.

A maioria das mães avaliou o programa como bom ou excelente (90%), considerou que o Mindful Moment lhes proporcionou o tipo de ajuda que esperavam ou desejavam (61%), ficou satisfeita com a ajuda fornecida pelo programa (74.6%), recomendá-lo-ia a uma amiga numa situação semelhante (86.4%), e utilizá-lo-ia novamente se necessário (81.4%), reforçando a aceitabilidade das mães relativamente a este programa, e que este poderá constituir-se uma ferramenta útil a ter em consideração na investigação e prática clínica futuras.

Por fim, as mães do grupo experimental apresentaram uma maior diminuição do stress parental (resultado primário), em comparação com o grupo de controlo. Este resultado está de acordo com estudos recentes que sugerem que as intervenções parentais baseadas no mindfulness (Chaplin et al., 2021) e na compaixão (Jefferson et al., 2020) podem contribuir para a diminuição dos níveis de stress parental, incluindo no período pós-parto (Potharst et al., 2017). No entanto, tanto quanto sabemos, a única intervenção parental baseada na parentalidade mindful e compassiva, em formato online e autoguiado, destinada a mães no período pós-parto não demonstrou ser eficaz na redução do stress parental (Potharst et al., 2019). Desta forma, os resultados do nosso estudo são promissores e sugerem que, na população portuguesa, este tipo de intervenções pode ser, particularmente, útil.

Adicionalmente, as mães do grupo experimental apresentaram um maior aumento do mindfulness disposicional e uma maior diminuição da perceção do temperamento do bebé como difícil (resultados secundários), entre o período pré-intervenção e o período pós-intervenção, comparativamente ao grupo de controlo. Embora o Mindful Moment tenha sido concebido para reduzir a experiência de stress parental, as estratégias incluídas no programa parecem ter, igualmente, um efeito clínico relevante nestes resultados. Estes resultados são consistentes com estudos anteriores, que demostraram que a parentalidade mindful está positivamente associada ao mindfulness disposicional (Gouveia et al., 2016) e negativamente associada a uma perceção materna do temperamento do bebé como difícil (Gartstein, 2021). Durante a participação no Mindful Moment, as mães praticam meditações de mindfulness e outros exercícios que pretendem promover a sua capacidade de estar mais conscientes e presentes nas interações mãe-bebé, de prestar atenção aos sinais e estados emocionais do bebé e de fazer uma pausa antes de reagirem automaticamente em situações de stress parental. De facto, e de acordo com estudos prévios, que sustentam uma associação positiva entre a parentalidade mindful e o mindfulness disposicional (Parent et al., 2021), parece que o treino de competências de mindfulness aplicado ao contexto parental se estende ao contexto individual, promovendo uma maior capacidade da mãe estar atenta e consciente e de manter a atenção focada nas experiências e acontecimentos gerais, que ocorrem no momento presente (Brown et al., 2007), e não apenas no contexto da parentalidade. De igual forma, parece que ao longo do tempo, as mães que participaram no Mindful Moment começaram a percecionar o temperamento dos seus bebés como menos difíceis, resultado que é consistente com estudos anteriores (Potharst et al., 2017). Um dos objetivos do Mindful Moment é ajudar as mães a desenvolver uma atitude de curiosidade, abertura e aceitação em relação aos seus bebés e nas interações que estabelecem com eles. No programa, as mães são convidadas a praticar a mente de principiante na relação com os seus bebés, ou seja, são convidadas a ver os seus bebés e os seus comportamentos sem os julgar ou rotular. Assim, à medida que as mães se tornam mais capazes de não ajuizar e rotular negativamente o bebé, passam a concentrar-se menos nas suas características mais desafiantes (e.g., um bebé que chora muito e é difícil de acalmar), passando a ser mais capazes de se concentrar nas características e aspetos positivos dele, podendo avaliar o seu temperamento como menos difícil. Além disso, a literatura prévia sugere que o stress parental materno está associado a uma perceção mais negativa do temperamento do bebé (Moe et al., 2018), podendo esta relação mudar à medida que as mães aprendem a lidar melhor com o stress parental. Estas relações devem ser analisadas em estudos com mais momentos de avaliação, de forma a compreender os potenciais mecanismos de mudança subjacentes a estes resultados.

Em suma, os resultados deste trabalho de investigação vão ao encontro de estudos prévios (e.g., Potharst et al., 2017) e sustentam os benefícios da adoção de uma postura mindful e compassiva na parentalidade, no período pós-parto. Esta abordagem na parentalidade permite às mães estarem plenamente presentes, adotarem uma postura não ajuizadora e compassiva na relação com o bebé e, por isso, deverá ser alvo de atenção futura, quer na investigação, quer na prática clínica. Por sua vez, também as políticas de saúde deverão ir ao encontro das necessidades encontradas na população de mães que se encontram no período pós-parto.

2. Pontos fortes e limitações do trabalho de investigação

2.1. Pontos fortes

O presente trabalho de investigação tem importantes pontos fortes, ao nível teórico, metodológico e estatístico que reforçam a validade, relevância e inovação dos resultados para o atual conhecimento e compreensão da parentalidade mindful e compassiva no período pós-parto.

Em primeiro lugar, deve ser destacada a **natureza pioneira** deste trabalho de investigação, ao nível da literatura nacional e internacional. Embora a literatura internacional disponibilize alguns resultados e reflexões sobre a parentalidade mindful e compassiva no período pós-parto, o trabalho de investigação apresentado na presente dissertação foi um dos primeiros trabalhos científicos: 1) a desenvolver uma revisão sistemática da literatura que permitiu sintetizar a evidência atual (considerando diferentes tipos de estudos empíricos, que foram submetidos a uma avaliação rigorosa da sua qualidade metodológica) sobre intervenções parentais baseadas na parentalidade mindful e compassiva, especificamente aplicados nos primeiros anos de vida do bebé, incluindo o período pós-parto - de notar que esta revisão forneceu algumas orientações relevantes a considerar na investigação e na prática clínica futuras nesta área; 2) a explorar alguns fatores e mecanismos-chave associados à parentalidade mindful e compassiva em mães que se encontram no período pós-parto, antes e durante a atual pandemia; e 3) em Portugal, este foi o primeiro trabalho de investigação a desenvolver uma intervenção online, promotora de uma parentalidade mindful e compassiva, para mães no período pós-parto, e a testar a sua viabilidade, aceitabilidade e eficácia preliminar. Assim, consideramos que um dos principais contributos deste trabalho se relacionou com uma maior compreensão de questões ainda escassamente investigadas e com a proposta de uma resposta inovadora, viável e eficaz (ainda que os resultados sejam apenas preliminares) às necessidades das mulheres que experienciam stress parental no período pós-parto.

Em segundo lugar, as nossas questões e objetivos de investigação foram sustentados por **quadros teóricos sólidos**, particularmente relacionados com o modelo teórico de Duncan et al. (2009) acerca da parentalidade mindful e com o TPM (Bögels & Restifo, 2014), que possibilitaram um fundamento teórico sólido para definir os objetivos do estudo e levantar hipóteses sobre algumas das relações estudadas nesta investigação. Por sua vez, os nossos resultados empíricos contribuíram para reforçar a importância de aplicar o TPM especificamente no período pós-parto.

Em terceiro lugar, este trabalho selecionou uma variedade de perguntas, incluídas nas **fichas de dados**, e de **instrumentos de avaliação**, adequados para medir construtos com várias dimensões, de forma a avaliar as variáveis de interesse em todas as amostras recrutadas, permitindo uma abordagem compreensiva e multidimensional da parentalidade mindful e compassiva no período pós-parto. Além disso, é de realçar a **fiabilidade** e **validade** dos protocolos de avaliação utilizados para cada amostra de participantes, que incluíram instrumentos igualmente válidos e fiáveis, com base em autorrelatos que privilegiam o ponto de vista pessoal das próprias mães.

Finalmente, as **escolhas metodológicas** que foram implementadas reforçam a relevância desta investigação. No que respeita à Revisão Sistemática da Literatura, importa realçar que a estratégia de pesquisa seguiu as guidelines do PRISMA (*Preferred Reporting Items for Systematic Reviews and Meta-Analyses*), o que fornece transparência relativamente a todos os artigos que foram analisados, permitindo a sua replicação. Nos estudos empíricos, as amostras recolhidas atingiram um tamanho notável, que permitiu realizar análises estatísticas mais robustas e com maior segurança, como por exemplo análises de mediação. Especificamente no que respeita ao estudo RCT [Estudo Empírico VI], este estudo foi desenvolvido de acordo com as guidelines da CONSORT (Eldridge et al., 2016; Eysenbach, 2011; Montgomery et al., 2018) e o princípio ITT. As **escolhas estatísticas** deste trabalho de investigação foram também cuidadosas, por exemplo, a utilização de análises de mediação e de MEE permitiram a exploração de efeitos diretos e indiretos que se associam à parentalidade mindful, controlando outras variáveis maternas e variáveis dos bebés, que poderiam influenciar os resultados. O uso destas técnicas, tal como abordado no ponto 2.4.3. do Capítulo II, permitiu explorar modelos de relação entre as variáveis com base em teorias sólidas pré-existentes (i.e., método estatístico confirmatório), o que dá uma maior segurança ao utilizar dados transversais, como é o caso de grande parte desta investigação (Hayes, 2013; Lei & Wu, 2007; Marôco, 2021). Para investigar a evidência preliminar da eficácia do Mindful Moment realizámos um RCT com dois momentos de avaliação. Os RCT's são considerados a forma de investigação com maior qualidade científica no que respeita à investigação de intervenções psicológicas, permitindo investigar a eficácia da intervenção com um mínimo de parcialidade. Além disso, a utilização de técnicas estatísticas avançadas contribuiu de forma inovadora para a

literatura. Neste contexto, destacamos a utilização de modelos lineares mistos para investigar a eficácia preliminar do Mindful Moment em diferentes variáveis (e.g., stress parental), o que permitiu lidar com os dados em falta com o mínimo de enviesamento.

2.2. Limitações

Apesar dos pontos fortes previamente mencionados, é essencial reconhecer algumas limitações, que devem ser consideradas na interpretação dos resultados do presente trabalho de investigação.

Em primeiro lugar, a Revisão Sistemática da Literatura apresenta limitações particulares que devem ser mencionadas ao nível dos estudos de intervenção incluídos: 1) a maioria dos estudos incluídos na revisão foram desenvolvidos nos Estados Unidos da América, o que torna difícil generalizar os seus resultados para países com características distintas, como, por exemplo, Portugal; 2) a maioria dos participantes das intervenções incluídas na revisão era constituída por mães e apenas um pequeno número de intervenções incluiu pais, o que dificulta a generalização dos resultados obtidos para os pais, no período após o nascimento de um bebé; 3) as abordagens de intervenção incluídas nesta revisão diferiram entre os diversos estudos. Uma vez que não foi possível proceder a uma análise quantitativa, através da realização de uma meta-análise, torna-se difícil retirar conclusões acerca da eficácia e efetividade das intervenções incluídas, na promoção de resultados positivos para a parentalidade e relação pais-bebé; 4) diversas variáveis devem ser tidas em consideração ao interpretar os nossos resultados (e.g., idade das crianças), uma vez que, ao não terem sido controladas, poderão ter contribuído para os resultados das intervenções; e 5) as diferentes intervenções incluídas nos estudos utilizaram diferentes facilitadores (e.g., profissionais de saúde mental, equipas multidisciplinares), o que poderá ter enviesado os resultados obtidos. Por fim, metodologicamente, apenas um investigador avaliou os títulos e resumos da pesquisa inicial, o que poderá ter resultado em estudos potencialmente perdidos ou na exclusão tendenciosa de artigos científicos. Além disso, a não inclusão de literatura cinzenta e artigos publicados noutras línguas que não o inglês pode ter introduzido um viés de publicação.

No que respeita aos diversos estudos empíricos, estes apresentam um conjunto de limitações que serão mencionadas de seguida. Em primeiro lugar, o **recrutamento online**, comum a todos os estudos empíricos, poderá ter levado à recolha de amostras autosselecionadas, ou seja, as mães mais interessadas nos temas de investigação, em particular na saúde mental e parentalidade, estariam provavelmente mais interessadas e mais motivadas para participar no estudo, do que as mães da população geral. Além disso, ao analisarmos as características das

amostras dos nossos estudos empíricos, concluímos que a maioria das mães tinha características específicas, tais como, por exemplo, viver com o companheiro e estar empregada. É possível que o recrutamento online tenha levado a uma sobrerrepresentação destas mães, o que poderá ter influenciado os nossos resultados e conclusões. Assim, existem limitações significativas na **representatividade** da amostra e na capacidade de generalizar os resultados do nosso trabalho de investigação a todas as mães portuguesas que se encontrem no período pós-parto. De notar que a recolha de amostra incluiu alguns pais/cuidadores do género masculino (*n* = 32), mas devido ao seu reduzido número e baixa representatividade na amostra total, tomámos a decisão de os excluir dos estudos.

Em segundo lugar, os estudos empíricos, à exceção do Estudo Empírico III, tinham um **desenho transversal**, o que impede o estabelecimento de relações causais entre as variáveis e implica que os nossos resultados devam ser interpretados em termos de interrelações bidirecionais entre variáveis num determinado momento temporal. Para além disso, tratando-se de uma investigação que pretende compreender os mecanismos responsáveis por um determinado resultado (i.e., parentalidade mindful e compassiva no período pós-parto) com um foco particular na parentalidade e na relação mãe-bebé, que são, tal como é a natureza das relações interpessoais, recíprocas e mutuamente influenciáveis, torna-se ainda mais difícil estabelecer uma direção causal entre as mesmas. No entanto, e cientes da natureza exploratória dos nossos resultados que advém desta limitação, assumimos que esta só poderá ser verdadeiramente colmatada em estudos futuros longitudinais.

Em terceiro lugar, relativamente aos métodos utilizados para a recolha de dados, o uso exclusivo de **medidas de autorrelato** poderá ter influenciado os resultados. Os autorrelatos são sensíveis a vários enviesamentos (e.g., o viés de recordação/memória, desejabilidade social, fadiga da resposta, dificuldades de compreensão ou perda de interesse, etc.), que podem levar a um preenchimento incorreto dos questionários e comprometer a validade das respostas. Ainda que consideremos esta como sendo uma limitação que mereça ser destacada, também assumimos que é uma limitação recorrente nas investigações em Psicologia e que, dificilmente, pode ser inteiramente controlada, dada a própria natureza subjetiva do ser humano. Apesar dos esforços realizados para garantir um correto preenchimento dos questionários (i.e., oportunidade para o esclarecimento de dúvidas no momento da divulgação do estudo ou, posteriormente, durante o preenchimento, através do fornecimento de contacto telefónico ou e-mail do investigador principal) é possível que possam ter ocorrido vieses de vários tipos. Estudos futuros deverão incluir outros métodos de recolha de amostra, tais como entrevistas clínicas e medidas observacionais.

Por fim, um conjunto adicional de limitações que são específicas do estudo RCT deve ser destacado. Em primeiro lugar, desenvolvemos um ensaio clínico aberto, uma vez que tanto os investigadores como as participantes tinham conhecimento da condição a que pertenciam. O conhecimento de se estar alocado ao grupo experimental ou ao grupo de controlo poderá ter influenciado os resultados através de um efeito de expectativa. No entanto, para minimizar o enviesamento, a atribuição a cada condição foi feita por um segundo investigador. Em segundo lugar, as comparações entre o grupo de intervenção e o grupo de controlo sobre a informação sociodemográfica, clínica e relacionada com a pandemia de COVID-19 revelaram uma diferença significativa na idade das mães, com o grupo experimental a incluir mães com idades significativamente superiores relativamente às mães do grupo de controlo, o que pode sugerir que a aleatorização não foi, totalmente bem-sucedida. Por conseguinte, um futuro RCT deverá utilizar um método de aleatorização estratificado para controlar e equilibrar a influência das características da linha de base dos participantes. Em terceiro lugar, apenas dois momentos de avaliação foram incluídos no presente estudo. É necessário um acompanhamento a longo prazo para verificar se os efeitos diferenciais se mantêm e para avaliar potenciais mecanismos que expliquem as respostas das mães à intervenção. Finalmente, apesar dos esforços realizados para maximizar a retenção das participantes através de mensagens de texto e lembretes por e-mail, a taxa de retenção foi baixa, tendo sido encontrada uma taxa de atrito mais baixa no grupo de controlo (o que pode ser explicado pela motivação das mães para receberem o Mindful Moment posteriormente). Embora a baixa adesão possa ser explicada pela falta de tempo (a falta de tempo foi a razão mais selecionada pelas mães para não completarem todos os módulos do programa) e isso possa ter impossibilitado as mães de terminar a intervenção em oito semanas, é possível que as mães que abandonaram, prematuramente, a intervenção possam não ter gostado de algumas das características ou conteúdos do Mindful Moment. O formato autoguiado também pode ter contribuído para as baixas taxas de adesão, que vão de encontro às taxas encontradas em estudos prévios com intervenções autoguiadas, nomeadamente em Portugal (Fonseca et al., 2020; Monteiro, 2020). A literatura anterior mostrou ainda que a responsabilização perante um terapeuta e o apoio humano envolvido em intervenções guiadas online poderia aumentar a adesão à intervenção (e.g., Baumeister et al., 2014). Assim, são necessários estudos futuros no sentido de explorar as hipóteses, previamente, sugeridas.

3. Implicações e considerações finais

3.1. Implicações para a investigação futura

O conjunto de resultados obtidos neste trabalho de investigação não só acrescenta conhecimento baseado na evidência ao estado da arte atual, como, e em consequência, levanta novas questões que devem ser alvo de atenção em estudos futuros. Tendo em consideração as limitações previamente apresentadas, assim como os resultados obtidos neste trabalho de investigação, é possível então refletir sobre algumas implicações para estudos futuros, especificamente em relação à parentalidade mindful e compassiva no período pós-parto.

A Revisão Sistemática da Literatura fornece implicações para a investigação futura, nomeadamente a necessidade de se compreender a eficácia das intervenções parentais baseadas no mindfulness e na compaixão. Além disso, são necessárias intervenções **metodologicamente** mais **robustas**, idealmente ensaios clínicos aleatorizados, dado o seu elevado rigor metodológico. Por fim, estudos futuros deverão ainda procurar **comparar** as intervenções presenciais, em grupo ou individuais, com outros tipos de intervenção (e.g., autoguiadas) assim como explorar o **custo-eficácia** de cada método de intervenção.

No que respeita aos estudos empíricos, podemos retirar, igualmente, algumas implicações para a investigação futura. Em primeiro lugar, os **modelos compreensivos** desenvolvidos nos diferentes estudos empíricos demonstraram sequências de relações e mecanismos existentes entre a adoção de uma abordagem mindful na parentalidade e a relação mãe-bebé, os processos de regulação emocional e o funcionamento psicológico das mães, no período pós-parto, que foram tidos em conta no desenvolvimento do Mindful Moment. De um modo geral, o trabalho de investigação desenvolvido possibilita um conhecimento integrador baseado na evidência, que fundamenta um investimento metodológico mais rigoroso em estudos futuros. A nossa investigação suporta a necessidade de que a investigação futura na área da parentalidade mindful e compassiva se foque na compreensão de outros **mecanismos** subjacentes ao estabelecimento da relação mãe-bebé e do funcionamento parental. Ao dotar o conhecimento nestas áreas de mecanismos-chave que podem influenciar o envolvimento das mães e, idealmente, dos pais, numa parentalidade mindful e compassiva (e.g., stress parental), é possível informar a prática clínica oferecendo informação fidedigna, que sustenta a importância do acompanhamento psicológico com esta população. Em concreto, quando realizada numa ótica compreensiva da parentalidade mindful, a investigação poderá indicar os principais **alvos de intervenção** ou, inclusivamente, que estratégias específicas poderão ser utilizadas nestas situações.

Apesar do papel importante das variáveis avaliadas nesta investigação, e com a necessidade de selecionar, a priori, um número limitado e exequível de variáveis a incluir nos protocolos de avaliação, deparámo-nos com a impossibilidade de estudar o **papel** de **outras variáveis** que consideramos igualmente relevantes. Nesta secção, gostaríamos de salientar a importância de, em estudos futuros, ser analisado o papel de algumas dessas variáveis, que não chegaram a ser analisadas nesta investigação, mas também de outras variáveis maternas e da relação mãe-bebé, que podem contribuir, adicionalmente, para compreender os mecanismos inerentes ao envolvimento numa abordagem mindful e compassiva na parentalidade. Em particular, no Estudo Empírico I, seria importante explorar outras variáveis que pudessem potenciar a promoção de uma parentalidade mindful nas mães, para além da redução do seu stress parental e da sua sintomatologia depressiva e ansiosa e da promoção de uma perceção do temperamento do bebé como menos difícil (e.g., satisfação com o parto). No Estudo Empírico II, seria relevante explorar outras variáveis que pudessem contribuir para a ligação mãe-bebé no período pós-parto, durante e após o período pandémico (e.g., confiança parental). No Estudo Empírico III, seria crucial explorar outros mecanismos que pudessem contribuir para a ligação entre a autocompaixão materna e a ligação mãe-bebé, para além da parentalidade mindful e do stress parental (e.g., flexibilidade psicológica). No Estudo Empírico IV seria importante explorar outros mecanismos, além da sintomatologia psicopatológica materna, através dos quais a autocompaixão poderá exercer influência na parentalidade mindful (e.g., dificuldades de regulação emocional). No Estudo Empírico V, seria de relevo explorar a aceitabilidade e preferências das mães relativamente a outros formatos de intervenção psicológica parental, como, por exemplo, o formato online e autoguiado.

De um modo geral, dado o papel essencial da regulação emocional na parentalidade e no estabelecimento da relação mãe-bebé, será importante compreender de que forma os processos de regulação emocional das mães e dos pais (e.g., flexibilidade psicológica, dificuldades de regulação emocional) se relacionam com a adoção de uma parentalidade mindful e compassiva e com a ligação mãe-bebé. Ainda que a adoção de uma postura mindful e compassiva na parentalidade dependa, em certo grau, das competências de mindfulness e da autocompaixão das mães, será importante compreender o papel concreto destas competências no estabelecimento da ligação mãe-bebé. Este conhecimento permitirá identificar mecanismos que assumem um papel principal na relação mãe-bebé e futuro desenvolvimento da criança, permitindo dirigir as intervenções para mecanismos-chave modificáveis. Para além disso, também importa compreender o papel de variáveis que podem influenciar tanto a regulação emocional como o funcionamento psicológico (e.g., satisfação com o parto; confiança parental) e, em

consequência, afetar a relação mãe-bebé e, eventualmente, o desenvolvimento futuro da criança e parentalidade.

Em segundo lugar, os estudos futuros deverão utilizar **desenhos longitudinais**, com mais de dois momentos de avaliação, de forma a esclarecer a direção das relações encontradas neste trabalho de investigação. Contudo, tal como se sabe, a condução de estudos de natureza longitudinal acarreta a necessidade de mais recursos (nem sempre disponíveis) na implementação de uma investigação.

Por último, seria também relevante utilizar uma **amostra representativa** de mães portuguesas, incluindo mães com outras caracteristicas sociodemográficas e grupos culturalmente mais diversificados daquele que foi incluído no presente trabalho de investigação. Da mesma forma, incluir os pais nas investigações, assim como investigar formas de os motivar a participar em projetos de investigação, constitui um ponto a ter em conta na investigação futura. Refira-se que uma distribuição mais homogénea das características da amostra permitiria a identificação das condições sociodemográficas e clínicas em que é mais provável que seja desenvolvida a parentalidade mindful e compassiva (ou seja, análises de moderação).

No que respeita às implicações do estudo RCT, a investigação futura poderia eventualmente: 1) incluir a utilização de um **grupo de controlo distinto** (e.g., ativo, com acesso a conteúdo do Mindful Moment abordando apenas alguns temas do programa, por exemplo, a autocompaixão), o que não só permitiria minimizar possíveis enviesamentos, como também poderia ser útil na compreensão de mecanismos e componentes específicos da intervenção; 2) adicionar mais **momentos de avaliação** para compreender a eficácia do Mindful Moment a longo prazo e testar se a diminuição do stress parental resultaria numa melhor adaptação aos diferentes desafios e transições da vida e num risco mais reduzido de desenvolver práticas parentais mais negativas e uma relação mãe-bebé mais disfuncional. Isto ajudaria a compreender melhor o potencial a longo prazo das intervenções destinadas a reduzir o stress parental durante este período. Além disso, a inclusão de momentos de avaliação adicionais permitiria realizar análises de mediação mais rigorosas e forneceria mais informações sobre que mecanismos deveriam ser particularmente focados numa futura intervenção; 3) devido às baixas taxas de adesão à investigação, que são comuns a outros estudos com intervenções online, é necessário que estudos futuros procurem explorar as **diferenças** entre as mães que são mais propensas a desistir deste tipo de estudos do que outras, uma vez que, por exemplo, os nossos resultados mostraram que uma maior proporção de mulheres com mais problemas psicopatológicos atuais desistiu (não preencheu o primeiro resultado no pós-teste); e 4) por fim, a baixa taxa de adesão à intervenção também é um ponto a considerar em investigações futuras. Alguns estudos têm sugerido que um maior envolvimento em intervenções online está associado a melhores resultados de tratamento

(e.g., Gan et al., 2021). A inclusão de **apoio humano** através de um terapeuta no início ou durante a intervenção (e.g., numa entrevista de diagnóstico) pode promover um maior sentido de responsabilidade para com a intervenção. Por outro lado, existe uma forte necessidade de **identificar características** das intervenções que estejam relacionadas com o abandono da intervenção. As intervenções, incluindo o Mindful Moment, deverão incluir **componentes mais interativos**, para aumentar o envolvimento das mães, tais como o apoio ao diálogo (e.g., elogios, recompensas) ou o apoio à credibilidade (e.g., fiabilidade, sensação do mundo real), que poderiam aumentar a interação com a intervenção e facilitar o seu objetivo principal. Especificamente, em relação ao Mindful Moment seria importante, por exemplo, utilizar mais vídeos e materiais interativos com exemplos práticos, uma vez que a maior parte das mães concordou que o vídeo no início de cada módulo as ajudou a tornar o programa mais real e humano, as ajudou a reter a principal mensagem de cada módulo e a sentir maior proximidade com o programa. Além disso, será importante simplificar exercícios que envolvam a presença do bebé, uma vez que a maior parte das mães considera que esses exercícios eram difíceis de realizar na presença do bebé. Por fim, será importante reduzir os trabalhos de casa devido à escassez de tempo relatada pelas mães.

3.2. Implicações para a prática clínica e para as políticas de saúde

Os resultados do presente trabalho de investigação permitem abrir caminho e oferecer algumas sugestões preliminares no sentido de promover uma parentalidade mindful e compassiva no período pós-parto. As implicações para a prática clínica e para as políticas de saúde apresentadas de seguida resultam não só de uma extensa revisão da literatura e da discussão dos nossos resultados, como também da experiência clínica dos investigadores que participaram neste trabalho de investigação com mulheres durante o período perinatal. Espera-se que as implicações deste trabalho possam, então, contribuir para o delineamento de estratégias de promoção de saúde mental materna e de uma parentalidade mindful e compassiva no período pós-parto, durante e para além da atual pandemia.

Através da Revisão Sistemática da Literatura foi possível compreender a necessidade de investir no desenvolvimento de intervenções parentais baseadas na parentalidade mindful e compassiva, no período pós-parto, dado o reduzido número de intervenções existentes identificadas, e inexistentes em Portugal. Além disso, a revisão compreensiva das características das intervenções, das estratégias terapêuticas utilizadas e das metodologias de investigação usadas fornecem **direções** e **pistas** a ter em consideração no desenvolvimento e implementação

de intervenções parentais durante os primeiros anos de vida do bebé, incluindo o período pós-parto. Mais especificamente, no que respeita às estratégias terapêuticas utilizadas, as intervenções adaptaram estratégias de programas de intervenção baseados no mindfulness e na compaixão para o contexto parental, nos primeiros anos de vida do bebé, tais como meditações formais e informais, baseadas no mindfulness, jogos interativos e discussão em grupo. Algumas intervenções incluíram também atividades de trabalho de casa entre as diferentes sessões. Uma vez que os resultados destas intervenções se associam a resultados positivos na promoção de competências parentais e qualidade do cuidado parental, parece fazer sentido ter em consideração estas estratégias no desenvolvimento de intervenções futuras.

Um dos maiores contributos deste trabalho de investigação e, em particular, dos diferentes estudos empíricos, é sustentar o papel do **stress parental** enquanto mecanismo adverso quer para o funcionamento parental, dificultando a adoção de uma parentalidade mindful, quer para o estabelecimento de uma ligação mãe-bebé funcional. Também a sintomatologia psicopatológica materna e a perceção que a mãe tem do temperamento do seu bebé têm influência na capacidade das mães adotarem uma abordagem mindful e compassiva na parentalidade e, por isso, deverão merecer atenção clínica. Assim, parece importante que as intervenções futuras se foquem em ensinar as mães a gerir situações indutoras de stress parental, para que consigam reduzir a experiência desse mesmo stress nas interações com os seus bebés. Isso irá permitir que se foquem na relação parental, estejam mais disponíveis para focar a sua atenção nas necessidades do bebé e adotem uma postura compassiva em relação aos comportamentos do mesmo.

Adicionalmente, o contributo deste trabalho tem ainda em conta o atual contexto pandémico, uma vez que os nossos resultados indicaram que durante um período de restrições mais elevadas relacionadas com a pandemia, as mães apresentaram níveis mais elevados de sintomas depressivos, mais dificuldade em adotar uma parentalidade mindful, em estabelecer uma ligação mãe-bebé funcional, e em ser autocompassivas, o que permite compreender a necessidade de adaptação das seguintes implicações de acordo com as diferentes fases da pandemia, que poderão advir no futuro. No momento atual, o contexto pandémico encontra-se relativamente estável, uma vez que, com a maior parte da população vacinada, o desenvolvimento de uma doença grave aquando da contração do vírus diminuiu consideravelmente. Contudo, futuramente, novas vagas poderão surgir, assim como novas variantes do vírus causador da COVID-19, exigindo, novamente, que sejam adotadas medidas estratégicas para lidar com tais adversidades. O nosso trabalho de investigação alerta para a necessidade de durante estes períodos (e podendo ser generalizado a outros contextos de crise ou catástrofe) acrescer a **atenção** sobre a **saúde mental perinatal**.

De um modo geral, tal como tem sido sugerido por investigações recentes na área da psicologia perinatal é cada vez mais importante ter em consideração o papel das emoções e, principalmente, da forma como estas são reguladas no contexto da parentalidade (Russell et al., 2021). O reconhecimento da importância da **regulação emocional** requer uma mudança de paradigma na forma como a parentalidade no período pós-parto pode ser concebida. Tal como defendido na literatura, a adoção de uma parentalidade mindful e compassiva está, intrinsecamente, ligada à capacidade das mães se regularem emocionalmente (e.g., regularem o seu stress parental; Kumalasari & Fourianalistyawati, 2020), nomeadamente através da sua capacidade de mindfulness e compaixão, que poderá e deverá ser plenamente promovida. A promoção de uma abordagem mindful e compassiva na parentalidade, poderá passar, em parte, pela promoção de competências psicológicas adaptativas nas mães, que lhes permitam regular de forma adaptativa os seus estados emocionais na relação parental. Assim, promover competências de **mindfulness** e de **autocompaixão** nas mães poderá ajudá-las a lidar eficazmente com o seu stress parental e a estabelecer relações mais positivas e seguras com o seu bebé e, por outro lado, funcionar como um travão para uma parentalidade "automática" ou reativa, guiada pelo stress parental das mães, comum na sociedade atual, e, especialmente, num contexto pandémico. De facto, os nossos resultados sustentam o papel positivo da autocompaixão na promoção de uma abordagem mindful da parentalidade e a necessidade das intervenções se focarem na promoção destes recursos psicológicos protetores.

De acordo com os resultados dos estudos empíricos (e.g., Estudo Empírico I; Estudo Empírico VI), promover uma abordagem mindful na parentalidade, poderá prevenir o impacto negativo do stress parental na relação de parentalidade. Neste sentido, de acordo com os resultados desta investigação, poderá fazer sentido promover atitudes fomentadas pela parentalidade mindful (e.g., escutar com atenção plena os sinais do bebé; adotar uma atitude de aceitação não ajuizadora perante si mesma e perante o bebé; desenvolver uma consciência emocional de si mesma e do bebé; exercer autorregulação na relação parental; e dirigir compaixão para o bebé e para si mesma no papel de mãe; Duncan et al., 2009) e sensibilizar as mães para os benefícios associados à adoção destas atitudes, tais como maior qualidade da relação mãe-bebé, maior sensibilidade e responsividade maternas, menor stress parental e uma ligação mãe-bebé mais funcional. Neste contexto, as terapias da terceira geração da **Terapia Cognitivo-Comportamental** (TCC), tais como o **TPM** e a **TFC**, que têm como objetivo central o desenvolvimento de recursos (e.g., atenção, autocompaixão), poderão ser importantes, uma vez que os nossos resultados mostraram que estes recursos desempenham um papel fundamental no desenvolvimento de uma relação mãe-bebé mais positiva e segura.

O papel do psicólogo na promoção de uma parentalidade mindful e compassiva

Em primeiro lugar, revela-se urgente apostar na sensibilização das autoridades competentes pela criação de políticas de saúde para a necessidade de incluir psicólogos em equipas multidisciplinares, que visem intervir junto de mães e pais, durante um período tão sensível para o desenvolvimento da relação pais-filhos, como é o período pós-parto (Johansson et al., 2017). O papel dos psicólogos é tão determinante quanto é importante intervir nos mecanismos-chave que, efetivamente, possam estar a manter abordagens disfuncionais na parentalidade.

Em Portugal, após a alta do bebé e da mãe da maternidade, os cuidados de saúde primários desempenham um papel essencial no acompanhamento da mãe, do bebé e da família. Assim, tanto nas maternidades, como nos centros de saúde (geralmente de mais fácil acesso por se localizarem junto de áreas de residência) poderá ser útil a promoção de atividades e campanhas de sensibilização, conduzidas por um psicólogo, quer destinadas a outros profissionais de saúde, como a mães (e pais) no período pós-parto.

Numa perspetiva de trabalho colaborativo e interdisciplinar com outros profissionais de saúde, a atuação do psicólogo clínico poderá focar-se na *sensibilização* dos *profissionais de saúde* que prestam cuidados a estas mães e famílias, informando-os acerca de algumas especificidades do processo de adaptação ao período pós-parto, bem como refletindo com eles acerca de diferentes estratégias de atuação em equipa. Além disso, o psicólogo é também importante na *sensibilização das famílias*, para a importância de desenvolverem uma regulação emocional adaptativa no seio familiar. Por exemplo, poderão ser promovidos cursos de promoção de competências parentais baseados no mindfulness e na compaixão em locais frequentados pelos pais (e.g., centros de saúde, ou escolas, creches e jardins de infância, quando os pais têm outros filhos). Em primeiro lugar, é relevante fornecer psicoeducação aos pais, particularmente às mães, que se encontrem no período pós-parto, no sentido de os informar acerca das respostas emocionais esperadas durante este período e de os ensinar a distinguir entre sintomas esperados/comuns e sintomas clinicamente significativos. Por outro lado, importa também providenciar informação relativa à relação mãe/pai-bebé e parentalidade, no sentido de encontrar estratégias que promovam uma parentalidade mais mindful e compassiva, que possam ser praticadas pelos pais. Através da psicoeducação será possível ajudar os pais a: i) normalizar algumas das suas respostas emocionais; ii) identificar níveis de stress parental moderados ou elevados e sintomas psicopatológicos, que poderão requerer a intervenção de profissionais de saúde mental; e iii) promover uma atitude autocompassiva e de autocuidado e, assim, prevenir o

stress parental em situações, potencialmente, indutoras de stress, nas múltiplas interações com o bebé e na família.

Nas instituições de saúde (e.g., maternidades, centros de saúde) seria ainda importante construir um sistema universal de *screening* psicológico, no sentido de avaliar variáveis-chave tais como os processos de regulação emocional (e.g., autocompaixão), o funcionamento psicológico (e.g., sintomatologia depressiva), ligação mãe/pai-bebé e outras variáveis que se mostrem relevantes neste contexto. Importa ainda a identificação de grupos de risco, como mães com níveis moderados ou elevados de stress parental, ou com presença de sintomatologia psicopatológica clinicamente significativa - com impacto negativo na parentalidade, no desenvolvimento do bebé e nas relações parentais - para que possam ser encaminhadas para acompanhamento psicológico. Para tal, é necessário que sejam utilizados instrumentos, especificamente, focados no período pós-parto na avaliação destas mães - num contexto pandémico as próprias ferramentas de *screening* poderão ser online (Thapa et al., 2020). Além disso, ao nível do *acompanhamento psicológico*, os psicólogos clínicos são profissionais de saúde com formação adequada para intervir com esta população, podendo adotar uma abordagem individual e/ou de casal/familiar. Para esta finalidade, os psicólogos devem receber treino profissional adequado sobre a saúde mental no contexto perinatal e sobre como promover competências parentais mindful e compassivas. A *intervenção* com as mães deverá ser feita ao nível da regulação emocional, ao fomentar competências adaptativas de regulação emocional (e.g., mindfulness e autocompaixão), com recurso, por exemplo, ao Mindful Moment.

O Mindful Moment na prática clínica em saúde mental perinatal

Primeiramente, parece-nos relevante sublinhar a necessidade de modificar o sistema de saúde mental, uma vez que os atuais serviços de saúde mental fornecem cuidados de saúde, principalmente, centrados na prevenção e tratamento de perturbações mentais. Este trabalho de investigação, para além de se focar na compreensão da sintomatologia psicopatológica materna e redução do stress parental, foca-se também na *promoção* de recursos psicológicos protetores, que permitam a aquisição de novas competências parentais e o estabelecimento de relações mais positivas e seguras entre as mães e os seus bebés, indo para além da redução de psicopatologia.

Ao longo dos últimos anos, tem havido um crescente interesse na promoção de competências de mindfulness e de autocompaixão, através da abordagem *e-mental health* (Linardon, 2020). As plataformas online de acesso a conteúdos relacionados com a saúde psicológica estão associadas a diversas vantagens que podem justificar este interesse (e.g., disponíveis em qualquer local com acesso à internet, em qualquer momento do dia, gratuitas,

com acesso a materiais úteis; Lal & Adair, 2014). Esta abordagem torna-se, especialmente, útil durante a atual pandemia, devido aos constrangimentos associados (apresentados em maior detalhe no Capítulo I da presente dissertação). De facto, desde o início da pandemia, os profissionais de saúde e a população em geral parecem ser favoráveis aos instrumentos de saúde digital (Ellis et al., 2021). De um modo geral, podemos dizer que a pandemia ofereceu a oportunidade de mudança na prestação de cuidados de saúde mental no sentido da promoção, prevenção e tratamento através de meios digitais. No entanto, esta mudança e continuidade requer o envolvimento não só dos profissionais de saúde mental e da população, mas também de decisores políticos, entidades reguladoras de saúde e entidades de financiamento. Revela-se, então, necessário compreender barreiras e facilitadores da implementação de intervenções digitais nos serviços de saúde mental e a formação específica dos profissionais de saúde mental para uma utilização segura e eficaz das opções de saúde mental digital. Posto isto, é importante que sejam desenvolvidas soluções políticas sustentáveis, focadas na formação e no financiamento adequado da investigação para que possa ser mais provável assegurar a aceitação e qualidade a longo prazo das ferramentas *e-mental health* (Gaebel & Stricker, 2020).

Neste contexto, a OMS desenvolveu um Plano de Ação de Saúde Mental Abrangente 2013-2020, que pretende fortalecer a liderança e promover a gestão eficaz na área da saúde mental; prestar serviços de saúde mental e assistência social compreensivos, integrados e responsivos em contexto comunitário; implementar estratégias de promoção e prevenção em saúde mental; e reforçar os sistemas de informação, evidência científica e investigação em saúde mental. Neste plano de ação, a OMS considera relevante a utilização de abordagens inovadoras, baseadas na evidência, no acompanhamento psicológico, nomeadamente através de intervenções autoguiadas e intervenções online. Nesse sentido, pretende desenvolver capacidade, políticas e procedimentos operacionais para a prestação remota de serviços e utilizar soluções de saúde digitais para apoiar os profissionais na prestação de cuidados, sempre que possível (WHO, 2021). Este plano pretende abranger países de todo o mundo. Contudo, especificamente em Portugal, o Plano Nacional para a Saúde Mental não menciona intervenções *e-mental health* (Programa Nacional para a Saúde Mental, 2017), apesar de, recentemente, a OPP ter sugerido o reforço no investimento em investigação científica e tecnológica em áreas onde o contributo da ciência psicológica e dos psicólogos possa ser capitalizado, como por exemplo, na área *e-health* (OPP, 2022). Assim, ainda existe um longo caminho a percorrer no sentido da aceitação e integração destas ferramentas nos serviços de saúde mental no nosso país.

Apesar disso, este trabalho de investigação veio comprovar a viabilidade e aceitabilidade de uma intervenção parental online autoguiada, empiricamente validada, que demonstrou ser eficaz, ainda que de forma preliminar, na promoção da saúde mental materna no período pós-

parto, reforçando a relevância do treino de mindfulness e compaixão aplicados à parentalidade durante este período.

De um modo geral, pode afirmar-se que a intervenção na parentalidade em Portugal ainda é feita de forma pouco sustentada (quer do ponto de vista teórico, como empírico) (Cruz, 2019). Este trabalho de investigação procurou contribuir para uma intervenção na parentalidade baseada na evidência, sugerindo que o Mindful Moment poderá constituir-se uma ferramenta útil a incluir nos cuidados de saúde mental perinatal, especialmente quando as mães apresentam níveis moderados ou elevados de stress parental, reforçando a necessidade de investimento futuro para a sua melhoria e implementação.

A parentalidade mindful e compassiva poderá ter a capacidade de abrandar, ou mesmo eliminar, a automaticidade no exercício da parentalidade, eliminando práticas parentais menos positivas, tornando as mães mais conscientes, compassivas, responsivas e sensíveis às necessidades do seu bebé e, por isso, com maior probabilidade de desenvolver relações positivas e seguras com ele. Esta postura poderá trazer benefícios, quer para as mães, ao permitir-lhes lidar melhor com as adversidades e dificuldades da parentalidade, quer para a relação mãe-bebé, ao permitir que as mães estejam mais presentes e disponíveis para responder às necessidades do bebé. Por tudo isto, esperamos que os resultados deste projeto de investigação possam informar as decisões políticas em torno do desenvolvimento e implementação de intervenções *e-health* para a população perinatal e contribuir para reforçar a necessidade de modificação das políticas de saúde existentes, de modo a possibilitar a implementação de práticas clínicas em Psicologia cada vez mais adequadas às necessidades das mães que se encontrem no período pós-parto em Portugal.

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