Sara Magalhães Pinto de Albuquerque

# "We are brothers in arms": Individual and interpersonal determinants and processes in the adjustment of bereaved parents

Doctoral thesis in Interuniversity Doctorate in Psychology, Specialty Clinical Psychology – Subject area: Family Psychology and Family Intervention, supervised by Dr. Marco Pereira and Professor Isabel Narciso, and submitted to the Faculty of Psychology and Education Sciences of the University of Coimbra.

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**Title**

"We are brothers in arms": Individual and interpersonal determinants and processes in the adjustment of bereaved parents

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# Table of Contents

# Index of Tables

## Chapter II | Objectives and Methodological Framework



## Chapter III | Systematic Review and Empirical Studies

Systematic review | *Couple's relationship after the death of a child: A systematic review*



Empirical study I | *Posttraumatic growth in bereaved parents: A multidimensional model of associated factors*



Empirical study II | *Dyadic coping mediates the relationship between parents' grief and dyadic adjustment following the loss of a child*



Empirical study III | *Parents' positive interpersonal coping after a child's death*

Empirical study IV | *Interactive processes in grief and relational adjustment after the death of a child*



Empirical study V | *Meaning and coping orientation of bereaved parents: Individual and dyadic processes*



## Attachments

Preliminary study | *Psychometric Studies of the Portuguese Version of the Continuing Bonds Scale-16 in a sample of bereaved parents*

# Index of Figures

## Chapter I | Theoretical Framework



## Chapter II | Objectives and Methodological Framework



## Chapter III | Systematic Review and Empirical Studies

### Systematic review | *Couple's relationship after the death of a child: A systematic review*



### Empirical study II | *Dyadic coping mediates the relationship between parents' grief and dyadic adjustment following the loss of a child*



### Empirical study III | *Parents' positive interpersonal coping after a child's death*

# List of Abbreviations and Acronyms

| | |
|---|---|
| **APA** | American Psychological Association |
| **APIM** | Actor-Partner Interdependence Model |
| **CB** | Continuing bonds |
| **CBS-16** | Continuing Bonds Scale-16 |
| **CFA** | Confirmatory factor analysis |
| **CGT** | Constructivist grounded theory |
| **DC** | Dyadic coping |
| **DCI** | Dyadic Coping Inventory |
| **DPM** | Dual Process Model |
| **EFA** | Exploratory factor analysis |
| **HRM** | Hierarchical Multiple Regression |
| **LO** | Loss coping orientation |
| **POSR** | Partner-Oriented Self-Regulation |
| **PTG** | Posttraumatic growth |
| **PTGI-SF** | Post-Traumatic Growth Inventory-Short Form |
| **PG-13** | Prolonged Grief Disorder Scale |
| **RO** | Restoration coping orientation |
| **RDAS** | Revised Dyadic Adjustment Scale |
| **RS-14** | 14-Item Resilience Scale |
| **STM** | Systemic-transactional model |

# Abstract


## Background

The death of a child impacts negatively several dimensions of parents' lives and parental adjustment encompasses coping with individual grief and relational processes. When a child dies, parents are confronted with the need to address both the changes in themselves as individuals as well as in the relationship with their partners. Also, the adjustment to a child's death impacts both parents, thus challenging them with the expectation of providing support to their partner while coping individually. Furthermore, the psychological adjustment of parents within a couple is not independent. Despite the interpersonal context in which parental grieving occurs, research with bereaved parents has been particularly focused on individual processes. A deep understanding of the phenomenon of parental bereavement and an approach that acknowledges the multi-dimensional (individual and relational) and dynamic complexity of bereaved parents' grief after the loss of a child is essential. Hence, the general aims of our study were: to obtain a view of individual and relational processes inherent to parents' adjustment (phase I); to identify the determinants and processes (individual, shared and relational) underlying parents' individual and marital adjustment (phase II); and to examine the interdependence and interactive processes among bereaved couples (phase III).

## Methods

This multi-method research project included three distinct research phases. In the first phase, a systematic review of empirical studies on the topic of marital adaptation of bereaved parents was conducted. This systematic review aimed to explore (1) the impact of the death of a child in the marital relationship, and (2) the influence of the marital relationship in the individual adjustment. The second phase focused on the cross-sectional examination of adjustment processes and outcomes in a sample of bereaved parents, including both quantitative ($N$ = 197) and qualitative ($N$ = 18) data purposely collected for this research project. Through self-report questionnaires and semi-structured interviews, information was gathered regarding: (1) sociodemographic characteristics and data regarding circumstances of death; (2) parents' individual (grief, posttraumatic growth) and marital adjustment (dyadic adjustment); and (3) parents' individual (continuing bonds,

resilience) and marital (dyadic coping [DC] and interpersonal coping) resources, as well as parents' perception of interactive processes. The third research phase focused on the analysis of interdependence among bereaved couples. We used dyadic longitudinal data of a previous research project collected from a sample of 227 bereaved couples (at 6, 13, and 20 months post-loss) on meaning-made and individual coping.

**Results**

Results from the systematic review of studies (phase I) indicated that a child's death can have cohesive and detrimental effects on the couple's relationship, depending on situational, dyad- and individual-level factors. Aspects such as marital quality and the couple's interdependence were found to influence parents' individual adjustment.

Regarding the objectives in phase II, being a female, having lost a younger child, and having higher levels of resilience, internalized continuing bonds and stress communication by the partner were associated with higher levels of posttraumatic growth. Also, significant indirect effects of parents' grief response on dyadic adjustment were found through stress communication by oneself and by the partner, positive DC by the partner; negative DC by the partner and joint DC. The timing of death (before vs. after birth) moderated the association between grief response and dyadic adjustment and between joint DC and dyadic adjustment. Finally, parents' perceptions of positive interpersonal coping processes involved search for meaning, communication with the partner and behaviors with the function of protecting the partner and the relationship. In addition, parents perceived their individual grief and coping to influence the marital relationship, specifically communication, conflicts and support. On the other hand, support within the relationship was perceived to influence parents' individual grief and coping. These interactive processes within bereaved parents functioned through interdependence between partners, and empathy and emotion contagion.

Regarding the objective of phase III, we found that the combination of the parents' own loss coping orientation and restoration coping orientation had a positive effect in parents' meaning-made, whereas partners' loss coping orientation had a negative effect.

**Conclusions**

The results from the present project highlight the need to: 1) account for the specific effect of the death of a child on marital relationships; 2) recognize the complex and bidirectional relationship between individual grief and the marital relationship, and how and when certain interpersonal interactions between bereaved partners impact the marital relationship; 3) acknowledge and optimize the potential protective effect of the interpersonal processes for parents individually and as couples; and 4) incorporate individual-level support in order to help bereaved partners to consider the consequences of their coping processes for themselves and their partners. Our results also enhance the relevance of emphasizing the wide-ranging types of factors contributing to salutogenic adjustment outcomes, namely posttraumatic growth and meaning-made.

**Keywords**

Death of a child • Marital adjustment • Couple relationship • Dyadic interdependence • Dyadic coping • Posttraumatic growth

# Resumo


## Introdução

A morte de um filho afeta negativamente várias dimensões da vida dos pais e o ajustamento parental envolve lidar com o luto individual e processos relacionais. Quando um filho morre, os pais são confrontados com a necessidade de lidar tanto com as mudanças em si mesmos como indivíduos, assim como na relação com o seu cônjuge. Ainda, o ajustamento à morte de um filho afeta ambos os pais, desafiando-os com a expectativa de apoiarem o companheiro ao mesmo tempo que lidam individualmente com a perda. Para além disso, o ajustamento psicológico dos pais enquanto casais não é independente. Apesar do contexto interpessoal em que o luto parental ocorre, a investigação com pais enlutados tem-se focado particularmente em processos individuais. Uma compreensão aprofundada do fenómeno do luto parental e uma abordagem que reconheça a complexidade multidimensional (individual e relacional) e dinâmica do luto dos pais após a perda de um filho é essencial. Neste sentido, os objetivos gerais do nosso estudo foram: obter uma visão dos processos individuais e relacionais inerentes ao ajustamento dos pais (fase I); identificar os determinantes e processos (individuais, compartilhados e relacionais) subjacentes ao ajustamento individual e conjugal dos pais (fase II); e examinar a interdependência e os processos interativos entre os casais enlutados (fase III).

## Metodologia

O presente projeto de investigação incluiu três fases distintas. Na primeira fase, realizou-se uma revisão sistemática de estudos empíricos sobre a adaptação conjugal dos pais em luto. Esta revisão sistemática teve como objetivo explorar (1) o impacto da morte de um filho na relação conjugal e (2) a influência da relação conjugal no ajustamento individual. A segunda fase centrou-se no estudo transversal dos processos de ajustamento numa amostra de pais em luto pela morte de um filho, incluindo dados quantitativos ($N$ = 197) e qualitativos ($N$ = 18) recolhidos para este projeto de investigação. Através de questionários de autorrelato e entrevistas semiestruturadas, foi recolhida informação sobre: (1) dados sociodemográficos e dados relativos às circunstâncias da morte; (2) ajustamento individual dos pais (resposta de luto, crescimento pós-traumático) e conjugal

(ajustamento diádico); e (3) recursos individuais (manutenção de vínculo, resiliência) e conjugais (*coping* diádico [CD] e *coping* interpessoal), bem como a perceção dos pais sobre os processos interativos. A terceira fase centrou-se na análise da interdependência entre os casais em luto. Utilizamos, nesta fase, dados diádicos longitudinais de um projeto de investigação anterior recolhidos de uma amostra de 227 casais em luto (6, 13 e 20 meses pós-morte) sobre o encontrar de um sentido na perda e o *coping* individual.

**Resultados**

Os resultados da revisão sistemática (fase I) indicaram que a morte de um filho pode ter efeitos coesivos ou prejudiciais na relação de casal, dependendo de fatores situacionais, diádicos e individuais. Aspetos como a qualidade conjugal e a interdependência do casal parecem influenciar o ajustamento individual dos pais.

Em relação aos objetivos na fase II, ser mulher, ter perdido um filho mais novo, ter níveis mais elevados de resiliência, manutenção do vínculo de tipo internalizada e comunicação de stresse do cônjuge mostraram-se associados a maiores níveis de crescimento pós-traumático. Para além disso, foram encontrados efeitos indiretos significativos do luto parental no ajustamento diádico através da comunicação do stresse do próprio e do cônjuge, CD positivo do cônjuge; CD negativo do cônjuge e CD conjunto. O momento da morte (antes ou após o nascimento) moderou a associação entre o luto parental e o ajustamento diádico, e entre o CD conjunto e o ajustamento diádico. Finalmente, a perceção dos pais sobre os processos positivos de *coping* interpessoal envolveram a procura de um sentido na perda, comunicação com o cônjuge e comportamentos com a função de proteger o cônjuge e a relação. Os pais percecionaram que o luto e o *coping* individuais influenciaram a relação conjugal, especificamente a comunicação, os conflitos e o apoio no casal. Por outro lado, foi percecionado que o apoio no casal influenciava o luto e o *coping* individual dos pais. Esses processos interativos entre os pais operavam através da interdependência entre os cônjuges, e a empatia e contágio emocional.

Em relação ao objetivo da fase III, a combinação do *coping* orientado para a perda com o *coping* orientado para a restauração teve um efeito positivo no encontrar um sentido na perda, mas o *coping* orientado para a perda (isoladamente) do companheiro teve um efeito negativo.

**Conclusões**

Os resultados do presente projeto de investigação destacam a necessidade de: 1) reconhecer o efeito específico da morte de um filho nas relações conjugais; 2) reconhecer a relação complexa e bidirecional entre o luto individual e a relação conjugal, e como e quando certas interações interpessoais entre os cônjuges afetam a relação conjugal; 3) reconhecer e otimizar o efeito potencialmente protetor dos processos interpessoais para os pais individualmente e como casais; e 4) incorporar apoio a nível individual para ajudar os pais a terem em conta as consequências dos seus processos de *coping* para si e para o cônjuge. Os nossos resultados salientam ainda a relevância de considerar a abrangência de tipos de fatores que contribuem para um ajustamento saudável à perda, nomeadamente o crescimento pós-traumático e o encontrar de um sentido na perda.

**Palavras-chave**

Morte de um filho • Ajustamento conjugal • Relação de casal • Interdependência diádica • *Coping* diádico • Crescimento pós-traumático

# Introductory Note

Parental adjustment to the loss of a child[1] encompasses individual and relational processes. In order to fully understand the complexity of such an experience, it is particularly important to acknowledge the multitude of variables affecting both types of processes and to recognize mutually reinforcing interactions between partners. These assumptions underlay this research project, which aimed to provide a comprehensive analysis of the experience and coping of bereaved parents after the death of a child.

This project was carried out within 1) the *Relationships, Development and Health* Research Group, of the Cognitive and Behavioral Center for Research and Intervention (CINEICC; R&D unit of the Portuguese Foundation for Science and Technology), at the Faculty of Psychology and Education Sciences of the University of Coimbra and 2) the Interuniversity Doctorate in Psychology, Specialty: Clinical Psychology – Subject area: Family Psychology and Family Intervention from the Faculty of Psychology and Education Sciences of the University of Coimbra and the Faculty of Psychology of the University of Lisbon. The course of this research project also included a 3-month period of supplementary research activities, which took place between September 15 and December 15, 2015, at the Department of Clinical Child and Family Studies, Vrije Universiteit Amsterdam (The Netherlands), under the scientific supervision of Prof. Dr. Catrin Finkenauer.

The present dissertation is organized in four chapters, herein succinctly described. **Chapter I | Theoretical Framework** encompasses an overview of the current literature on the topic of individual and marital adjustment of parents after the death of a child, moving on to a brief overview of conceptual models of adjustment (individual and dyadic), and terminates with a summary of the research gaps and limitations identified in the current literature on this topic.

**Chapter II | Objectives and Methodological Framework** integrates the operational aspects of this research project, by describing the general aims and broad methodological options that interconnect the different empirical studies. Overall, the present project

[1] In this research project, the term child refers to an individual of any age whose parents are grieving his/her loss.

comprised three distinct phases: (1) a systematic review of the literature on the topic of marital adjustment of bereaved parents; (2) the examination of adjustment processes and outcomes in a sample of bereaved parents, including both quantitative and qualitative data purposely collected for this research project; and (3) the examination of interdependence among bereaved couples, using dyadic longitudinal data collected in the context of a previous research project on the impact of a child's loss on couples, conducted at the Center of Bereavement Research of the University of Utrecht, in The Netherlands.

**Chapter III | Systematic Review and Empirical Studies** includes six original studies (a systematic literature review and five empirical studies) presented in the format of scientific papers. Five of these are published or accepted for publication in international peer-reviewed journals, and one study is currently submitted also in an international peer-reviewed journal. Using a multi-method approach, following the systematic review (phase I), we will present the empirical studies from phase II, starting with the quantitative studies and followed by the qualitative ones. Our final paper pertains to phase III of this project.

Finally, **Chapter IV | General Discussion** offers a brief summary and discussion of the core results derived from the empirical studies, as well as a critical review of the methodological strengths and limitations of the study. The concluding remarks of the present dissertation are dedicated to the discussion of the theoretical and practical contributions of our work and to the outlining of evidence-based guidelines for future research in this area and clinical practice with bereaved parents.

Attached to this dissertation, we also present one preliminary study aimed to assess the psychometric properties of the Continuing Bonds Scale (CBS-16) in a sample of Portuguese-speaking bereaved parents.

# Chapter I

## Theoretical Framework

## 1. Death of a child: Individual and marital adjustment

The death of a child challenges the perceived natural order of life events, as parents expect to pre-decease their children (Rubin & Malkinson, 2001; Wheeler, 2001). This untimely experience defies the individuals' basic assumptions about safety, justice, predictability and stability in the world (Ungureanu & Sandberg, 2010). It is a heart-breaking, unparalleled and devastating event that changes the parents in fundamental ways, both individually and as marital partners (Rogers, Floyd, Seltzer, Greenberg, & Hong, 2008).

The process of parental grief is complex, non-linear, intense, highly individualized and enduring (Arnold & Gemma, 2008). Parental grief often includes a "roller coaster of shock, disbelief, anger, blame, sadness, weariness and hopelessness" (Dent & Stewart, 2004, p. 174) and throughout the life cycle it is frequently associated with guilt, remorse, sorrow, regret, shame, anger, hostility, and despair (e.g. Arnold & Gemma, 2008). Additionally to losing a child, parents also lose what their child embodies, such as a joint future and descendants, unfulfilled dreams, expectations and ambitions, as well as their role as care-givers and nurturers of that child (Riches & Dawson, 1996). Life will never be as previously envisioned and parents have a new role as bereaved parents (Talbot, 2002).

All facets of human functioning, including physical, psychological and social, are affected by the impact of such a significant loss, which results in an amplified risk of lasting psychosocial and physical morbidities in bereaved parents. The evidence indicates that losing a child is associated with a higher risk of developing complicated grief (Kersting, Brahler, Glaesmer, & Wagner, 2011; Zetumer et al., 2015), which is what occurs when grief persists at an intense level for an extended period of time (Lichtenthal, Cruess, & Prigerson, 2004). Moreover, bereaved parents often report clinical levels of anxiety (Lannen, Wolfe, Prigerson, Onelov & Kreicbergs, 2008; Rogers et al., 2008), posttraumatic stress (Ljungman, Hoven, Ljungman, Cernvall, & von Essen, 2015) and depression (McCarthy, Clarke, Ting, Anderson, & Health, 2010). Likewise, there seems to exist an increased risk of psychiatric hospitalizations (Li, Laursen, Precht, Olsen, & Mortensen, 2005), worsening of physical health (Lannen et al., 2008; Stroebe, Schut, & Stroebe, 2007) and increased mortality rates (Li, Precht, Mortensen, & Olsen, 2003).

As well, questions such as "How much can our relationship withstand?" or "Is our relationship going to survive after the loss of our child?" are present in many bereaved parents' minds after the death of their child. This is not surprising, as the death of a child inevitably poses special (and complex) challenges to their relationship. After all, it is a relationship between two people who have shared a very substantial loss and who are confronted with each other's grief (Rosenblatt, 2000).

Often, this complex array of symptomatology comes into play within the marital relationship, substantiating the increased marital distress and divorce rates among bereaved parents (Lyngstad, 2013; Rogers, 2005). Having to cope physically and emotionally with the overwhelming effects of the death of a child can place a significant strain on the couple's relationship (Barrera et al., 2007). To make this context even more complex, not only has the parent lost a child, but also the one person the parent would usually turn to is likewise consumed in his/her own grief and may be too distressed to help and provide (Wijngaards-de Meij et al., 2007). Accordingly, a bereaved couple is faced with the dual stress of being simultaneously the recipients and providers of support (to each other and to the family; Rogers et al., 2008).

Nevertheless, couples can respond to and cope with the death of their child in different ways (Lohan & Murphy, 2007). Even though a child's death always has an extensive impact on the couple's relationship, this event may strengthen or weaken the marital bond. Hence, some partners may become emotionally alienated from one another, while other partners' connections are likely to grow stronger as they support each other through the grieving process (Barrera et al., 2007; Rosenblatt, 2000; Schwab, 1992, 1998).

In the context of bereavement, diverse types of viewpoints and theories have been used to describe the responses and coping mechanisms that people use to deal with loss and adversity. Moreover, given that grief is also an interpersonal phenomenon, in addition to conceptual models focused on individual adjustment, others about dyadic[2] adjustment are particularly relevant in the context of parental bereavement.

[2] In this study, the term dyad refers to two individuals in a romantic relationship, such as husband and wife (married) or two partners cohabiting.

## 2. Conceptual models of adjustment

### 2.1. The Dual Process Model

Numerous shortcomings on earlier conceptualizations of adjustment to loss have been identified, namely the lack of clarification of when and for whom working through grief is useful, as well as the reduced acknowledgment of the dynamic process characteristic of grieving (Stroebe & Schut, 1999). The Dual Process Model (DPM), a stressor-specific analysis of the coping process with bereavement, was designed to overcome the limitations of these earlier theoretical frameworks.

A distinctive aspect of the DPM includes the specification of loss and restoration coping orientations. Loss coping orientation (LO) involves confronting and handling feelings of grief and loss itself by, for instance, yearning and ruminating about the deceased, their life together, and the circumstances and events surrounding the death. Restoration coping orientation (RO) refers to coping with everyday life stressors that come about as secondary consequences of the death. These encompass major adjustments, for example, mastering tasks previously undertaken by the deceased (e.g., finances or cooking). In addition, the bereaved person might occasionally take a "time off" from grieving, by engaging in non-bereavement related activities, for respite and recuperation.

A central component of the DPM is an emotion regulation coping process named oscillation, which consists in a balanced dynamic back-and-forth and confrontation-avoidance process of both types of stressors. The bereaved person will at times attend to loss-oriented stressors, while at other times he/she will avoid them; the same applies to restoration-oriented stressors. The original DPM (see Figure 1) posits that healthy adjustment and coping with grief encompasses a balanced oscillation between the two stressors orientations. Therefore, complications in grieving and poor adjustment are likely to occur in cases of exclusive and extreme focus on one type of stressor, or in cases of difficulties in alternating smoothly between LO and RO (manifesting extreme symptoms of intrusion and avoidance; Stroebe & Schut, 1999, 2008).

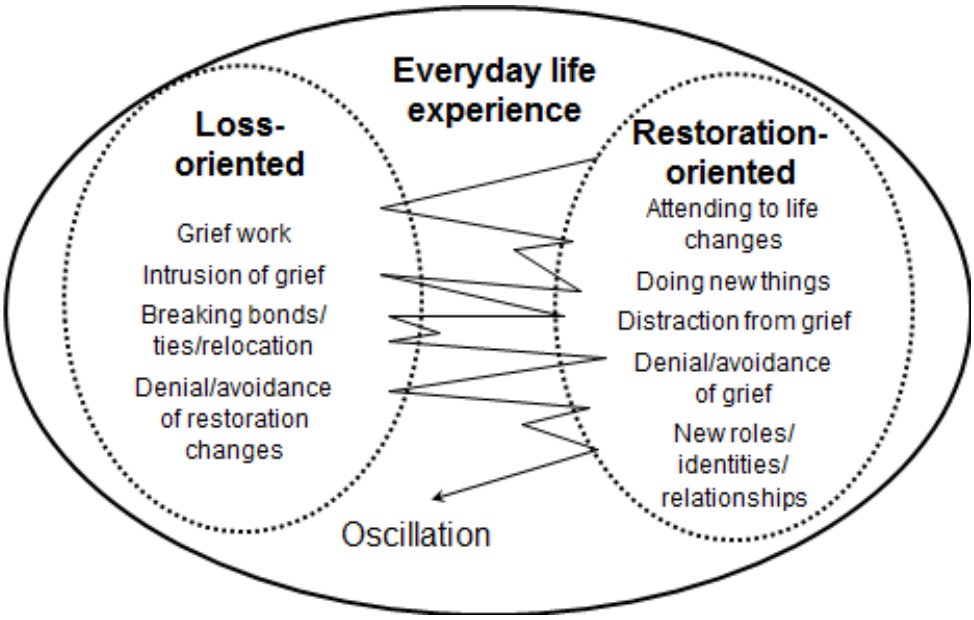


**Figure 1** I DPM (Stroebe & Schut, 1999, p. 213)

After the initial development of the DMP (Stroebe & Schut, 1999), numerous specifications and developments of this model have been undertaken during the past years. For example, Stroebe and Schut (2001a) introduced cognitive pathways into the model (see Figure 2). The authors added as an integral part of the coping process the oscillation not only between LO and RO, but also between positive and negative cognitions that are present in both types of coping orientations.

These cognitive pathways were designated by Stroebe and Schut (2001a) as meaning (re)construction. As positive meaning (re)construction, these authors proposed positive reappraisal, revised (constructive) goals, positive event interpretation, and expressing positive affect. Negative meaning (re)construction referred to rumination, wishful thinking, revised (unconstructive) goals, negative event interpretation and ventilating dysphoria. Positive meaning (re)construction is important in healthy adjustment to the loss, but if this is maintained relentlessly, grieving is neglected. Coherently, persistent negative meaning (re)construction has been identified as maladaptive coping.

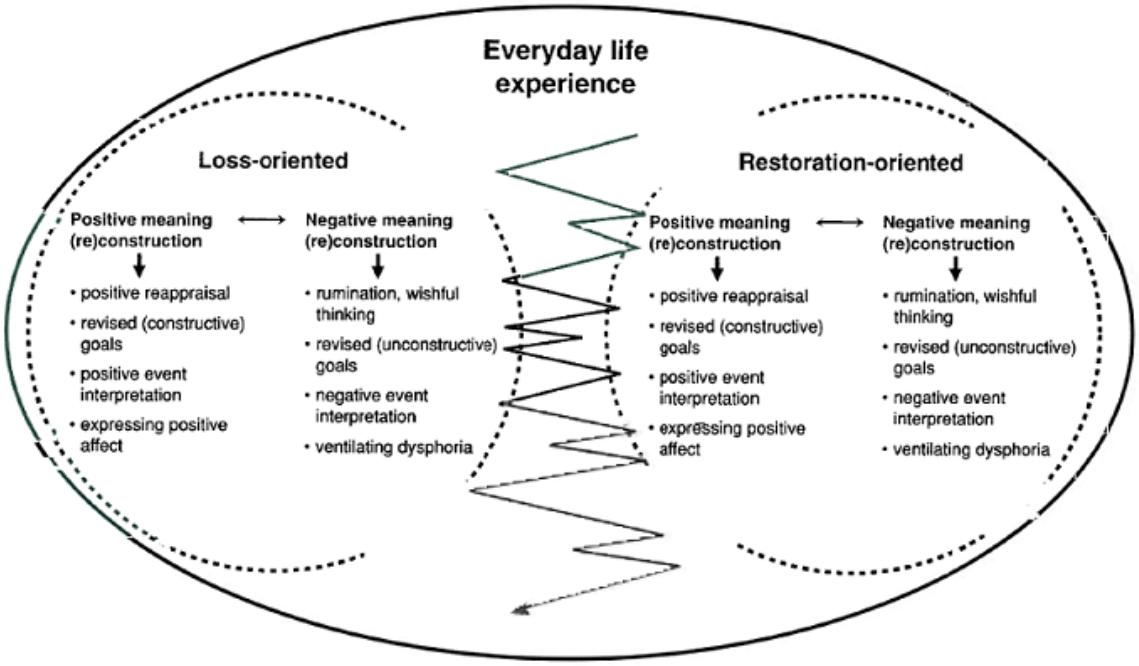


**Figure 2** I DPM: Pathways (Stroebe & Schut, 2001a, p. 68)

Based on recent research that has emphasized the interrelation between individual and family dynamics during bereavement (Stroebe, Schut, & Finkenauer, 2013), a recent add-on to the DPM was the integration of family-level coping in parallel with the individual-level structure (Stroebe & Schut, 2015; see Figure 3). Family-level coping denotes addressing individual- and family-level stressors as a whole. Loss-orientated family-level stressors entail that, for example, as grieving alongside each other, as a whole, family members may support each other through their grief, but at times difficulties may arise due to the differences in coping within the family. And just as LO includes family-level stressors, RO encompasses such stressors too. Restoration-oriented family-level stressors may entail, for example, coping together with reduced family income or family-level decision-making regarding relocation.

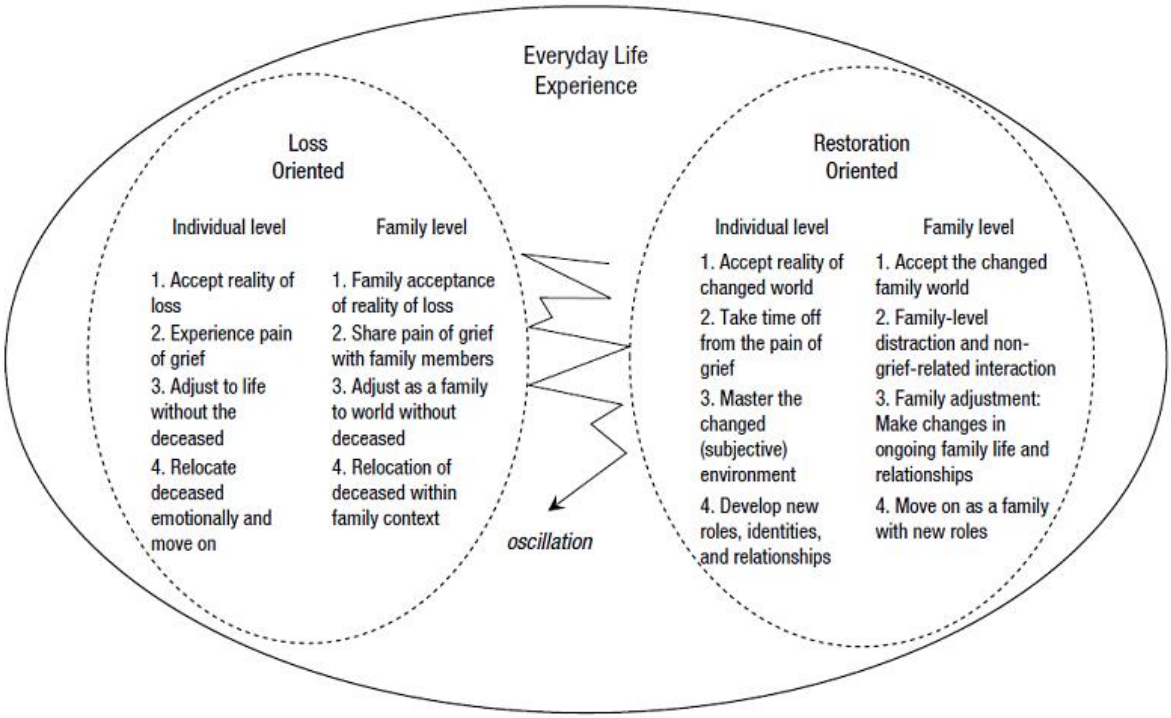


**Figure 3** I DPM: Individual- and family-level coping (Stroebe & Schut, 2015, p. 875)

Finally, in the latest development of the DPM, Stroebe and Schut (2016) argue that dealing at times with LO, at times with RO, and also at times taking time off, may not be enough for emotion regulation. In this context, attention has been brought to the possibility that bereaved persons may actually encounter more loss- and/or more restoration-related stressors than they feel able to manage, a process that was labelled as overload. Overload may derive from multiple bereavements or from experiencing too many restoration-related stressors, such as financial and/or relocating consequences (see Figure 4).

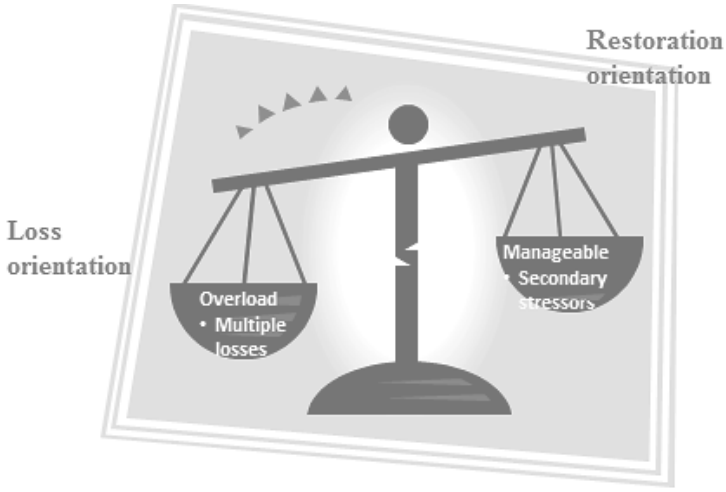


**Figure 4** I DPM: Loss-oriented stressors overload (Stroebe & Schut, 2016, p. 101)

To our knowledge, the constructs of the DPM have been rarely used in the context of research about grieving for the death of a child. One of the few exceptions was the study conducted by Wijngaards-de Meij et al. (2008), which focused on how bereaved parents' coping affected their adjustment. These authors reported that LO predicted higher levels of grief and depression, while RO predicted lower levels of grief and depression.

The DPM's application in the context of grieving for the death of a child would be very useful given the comprehensiveness of this model in attesting for the complexity and dynamic grieving process characteristic of such a specific type of loss.

### 2.2. Continuing bonds: Letting go is not a necessary condition for moving on

Traditional models of grief (Bowlby, 1980; Freud, 1957; Worden, 1982) rely on the idea that a healthy grief process entails relinquishing the tie to the deceased, that is, the need of disengagement/detachment in order to have energy for new relationships. As a response to this notion, Klass, Silverman, and Nickman (1996) stated that continuing connections with the deceased were not necessarily pathological and could be a natural and even salutary factor in grief resolution, an idea that has been confirmed by contemporary literature in the area (e.g., Neimeyer, 2001; Valentine, 2009).

This concept of an ongoing connection has been operationally defined in multiple ways in the literature. Klass et al. (1996) were the first authors to conceptualize this construct as the commonly used *continuing bonds* (CB). According to these authors, CB refer to the interactive relationship between the grieving individual and the deceased. Continuing bonds were further defined as an active and ongoing inner relationship with the deceased (Benore & Park, 2004; Stroebe & Schut, 2005).

In addition, Klass (2006) acknowledged the social nature of CB, highlighting the importance of including community, cultural, and political narratives in the understanding of CB, as they are believed to be intertwined into individual grief narratives. More recently, Field and Filanosky (2010) recognized this internal nature of CB, which function was mainly to regulate affect through maintaining psychological proximity (the deceased viewed as a role model and safe haven). However, these authors also highlighted the existence of an externalized expression of CB, characterized by illusions or hallucinations of the deceased,

enhancing physical, rather than psychological proximity to the deceased. In contrast with the internalized CB that are conceptualized as being adaptive, externalized CB have been reported to be related to elevated psychological distress symptoms and complicated or prolonged grief (Field & Filanosky, 2010; Field, Gal-Oz, & Bonanno, 2003).

Researchers have comprehensively applied this modern view of CB to a variety of contexts, including bereaved parents. Research with bereaved parents has emphasized that parent-child continuing connections with the functions of maintaining the link to the child and keeping the child's memory alive are a widely-occurring phenomenon (e.g., Davies, 2004; Meert, Briller, Myers-Shim, Thurston, & Karbel, 2009; Rosenblatt, 2000; Talbot, 2002; Wheeler, 2001). Expressions of CB among bereaved parents include reminiscing about the child, storytelling (Cacciatore & Flint, 2012; Toller, 2005), keeping belongings or photographs (Harper, O'Connor, Dickson, & Ronan, 2011), acknowledging the child's impact on their ongoing life, honoring the child through selfless acts, doing things that the child would have liked (Foster et al., 2011), adopting child's characteristics, values and beliefs and referring to the child as a role model (Gamino, Sewell, & Easterling, 2000; Klass, 1993; Ronen et al., 2010). Other expressions of CB expressions involve interacting with the child through visiting the gravesite, sensing the presence of the child watching over them, and communicating to the child by talking or praying (Foster et al., 2011; Harper et al., 2011). Recently, Christensen, Segerstad, Kasperowski, and Sandvik (2017) showed how online forums can have the function for bereaved parents of communicating about the bond to the child and keeping this bond alive.

Recent research has elaborated on the factors that might influence the adaptiveness of CB (e.g., Root & Exline, 2014; Stroebe & Schut, 2005). First, one factor is the form of CB. Whether the CB is more concrete vs. abstract/symbolic may determine if the continued connection is adaptive. For example, concrete expressions of proximity seeking (e.g., linking objects or visiting the gravesite) have been related with increased distress, but more abstract ways of bonding (e.g., reminiscing) may be associated with less distress (Field, Nichols, Holen, & Horowitz, 1999). In addition, Field and Filanosky (2010) found that internalized CB expressions (emphasizing psychological proximity) are more adaptive than externalized expressions (emphasizing physical proximity). Indeed, these authors found

associations between externalized CB and poorer perceived health, while internalized CB were positively associated with personal growth.

Second, adaptiveness may differ regarding the function of CB. Continuing bonds expressions may entail acknowledgement of the reality of the death or denial/avoidance of the death, which can obstruct a healthy grief adjustment (Field & Filanosky, 2010; Root & Exline, 2014). Moreover, CB can provide psychological proximity (Root & Exline, 2014) and secure base (Field & Filanosky, 2010) and be a source of solace, providing comfort and structure for the bereaved (Klass et al., 1996). Research has also shown that the individuals may perceive CB expression as intrusive and frightening (e.g., Ronen et al., 2009) or comforting (Klass, 1996; Talbot, 2002). Root and Exline (2014) highlighted that the ability to purposely initiate the CB behaviors may influence the perceptions of intrusiveness of CB and, therefore, its impact (Foster et al., 2011).

Finally, another related factor is whether the bond is static or flexible, thus changing over time (Klass et al., 2006; Root & Exline, 2014). Barrera et al. (2007) found that parents who engaged in static CB (focused on the physical loss, child's possessions), were less able to move on, comparing with parents engaged in evolving CB. The latter adjusted to the physical disappearance of the child while keeping the child's memory alive through a spiritual bond.

Continuing bonds have been often shown to constitute an expressed and outspoken need of bereaved parents (e.g., Talbot, 2002; Wheeler, 2001). However, 1) whether or not CB positively or negatively influence parents' adjustment and 2) what conditions influence the adaptiveness of CB are questions that warrant special further exploration especially among bereaved parents, a context in which the present knowledge is still limited.

## 2.3. Positive features coexisting with distress: Meaning-made and posttraumatic growth

The idea that people can experience benign changes through suffering is hardly new, as these have long been acknowledged in philosophy, literature, and religion (Tedeschi & Calhoun, 1995). However, researchers and clinicians have increasingly recognized the importance of focusing on the processes that are associated with healthier outcomes

(Calhoun & Tedeschi, 2006). Research with bereaved parents has begun to follow the same pattern. In this context, three constructs have been widely used in the literature: meaning-made, posttraumatic growth, and resilience.

Common to the constructs of meaning-made and posttraumatic growth is the idea that certain events, such as non-normative deaths, (such as the death of a child, Stroebe & Schut, 2001b), defy our conventions about the meaning of life and death, and about what is fair and predictable (Nadeau, 1998; Neimeyer, 2005). As posited by Tedeschi and Calhoun (2006), this experience is similar to reconstructing a city after an earthquake, in which one tries to restructure their cognitive world after a seismic event.

Bereaved parents often have to somehow make sense of an event that does not fit with their previous conceptions of the world. Their assumptive world is challenged by this traumatic event, and parents must develop new ways of looking at themselves and/or the world (Calhoun & Tedeschi, 2001). Meaning-made refers to these new self- and world-views and denotes the changes resulting from efforts that people engage to diminish the discrepancy between the meaning attributed to the event and global beliefs about the self and the world (Park, 2010). Meaning-made involves deliberate or reflective rumination, which encompasses reminiscing and trying to make sense of the loss (Calhoun & Tedeschi, 2006; Nolen-Hoeksema & Davis, 2004). Regarding the association with adjustment, research has shown that the risk of poor adjustment increases substantially for parents who searched for a meaning but found none (Murphy, Johnson, & Lohan, 2003). However, there is also evidence of the protective effects of achieving meaning-made in bereaved parents, namely regarding its association with lower grief intensity (Keesee, Currier, & Neimeyer, 2008) and better marital adjustment (Murphy et al., 2003).

Authors have argued that the person's psychological struggle instigated by the disruption of the world assumptions actually enables the identification of benign changes (Cann et al., 2010). Though many terms have been used to describe these changes (e.g., benefit finding, stress-related growth, and thriving), the most commonly used is posttraumatic growth (PTG). This concept refers to self-reported positive changes that develop beyond one's previous level of psychological functioning as a result of coping with extremely challenging life circumstances and their aftermath. Three main areas in which people

generally report growth have been recognized: (1) relationship with others (increase in empathy, intimacy and closeness with others); (2) self (feeling sturdier and better able to endure future obstacles); and (3) life philosophy (greater appreciation of their life; reconsidering the priorities in their life; amplified pleasure in the ordinary life experiences that previously may have been overlooked or taken for granted; Tedeschi & Calhoun, 1996, 2004).

An extensive body of research argued that parents of children with serious health problems, people with cancer, people who have suffered a heart attack, and people who have served in war, identify positive changes in their lives in consequence of coping with such traumatic events (for a review, see Helgeson, Reynolds, & Tomich, 2006). The same seems to be the case for bereaved parents, as some studies describe the centrality of PTG (Engelkemeyer & Marwit, 2008), the perception of increased empathy for others, the need to adjust values or reprioritize goals (Miles & Crandall, 1983) and the experience of competence and strength (Polatinsky & Esprey, 2000).

Nevertheless, according to the model by Tedeschi and Calhoun (1996), it is important to note that PTG is not thought to be mutually exclusive from distress associated with pain and trauma, but often coexists alongside it. Research demonstrated that reports of PTG are often positively correlated with reports of posttraumatic stress (Linley & Joseph, 2004). Some argue that the fact that evidence showing that reported growth may not be accompanied with corresponding levels of distress decrease (Hobfoll et al., 2007), could call into question the adaptiveness of PTG. However, other authors argue that, in the long-term, actual growth is expected to have a positive impact in mental health (Helgeson et al., 2006) and to translate in more adaptive functioning among people that experience trauma (Westphal & Bonanno, 2007).

Though distinct, meaning-made and PTG are conceptually and empirically related to each other in recognizing the human capacity for growth through adversity and focusing on people's strengths and individual resources. This salutogenic view is of utmost importance in research with bereaved parents, mostly because research has predominantly focused on the negative aspects of grieving (e.g., grief response and severity, depression). For most parents, the loss of a child produces great pain and suffering, and for some, the pain

experienced and the struggle to survive may be accompanied by an experience of growth. Accordingly, this focus on positive outcomes following a traumatic event should not remain overlooked in the literature.

## 2.4. Coping with stress: The Systemic-Transactional Model

Traditionally, individualistic frameworks of stress and coping have been predominant in the literature. Lazarus and Folkman's (1984) transactional theory of stress is an example of such a conceptualization, suggesting the stressfulness of situations would be dependent on (1) one's individual appraisal of the characteristic of the situation (e.g., level of significance, threat or loss) and (2) one's available resources to respond to these demands. Expanding upon this individual view, researchers have begun to focus increasingly on stress and coping in the context of couple relationships, leading to the emergence of conceptual models such as Coyne's and Smith's Relationship Focused Coping Model (1991), DeLongis and O'Brien's Emphatic Coping Model (1990) and Bodenmann's Systemic-Transactional Model (1995, 2005).

The Systemic-Transactional Model (STM; Bodenmann, 1995, 2005) presents a particular important contribution to the literature of stress and coping in couples, by encompassing not only how one partner could promote or undercut the other partner's coping process, but also how partners can jointly cope and communicate about their stress to each other. Also, this is the only dyadic coping conceptual model that has been applied and used in research in different cultures around the world (Falconier, Randall & Bodenmann, 2016). In this model, "dyadic stress" is conceptualized as the stress that both partners in a couple experience when faced with a common stressor, or when there is a transfer of stress from one partner to the other. In its essence, a child's death is a dyadic stressor, since bereaved parents are concurrently experiencing a highly stressful and traumatic experience and must, consequently, not only manage their own individual adjustment but also attend to their partner's support needs (Rando, 2000).

Central to the STM (Bodenmann, 1995) is the concept of dyadic coping (DC). Dyadic coping is the process triggered by dyadic stress and consists on the efforts one partner makes to support the other when he or she is stressed and the mutual attempts that both partners make to cope with a shared stressor. It involves: (a) stress communication of one

partner (i.e., verbal or nonverbal), which refers to the ability to communicate the stress experience to the partner and to request emotional or practical support; (b) the perception of these signals by the other partner; and (c) the reaction to these stress signals by the partner. This model includes partner- and couples-oriented behaviors that can be positive or negative.

Positive partner-oriented behaviors can be either problem-focused (coping directly with the actual stressor) or emotion-focused (coping with emotions related to the stressor). A form of positive DC is supportive DC that involves expressing solidarity, being empathic, understanding, and giving information and practical advice. Another form of positive DC is delegated DC, which describes when one partner undertakes the duties of the other to help diminish their partner's stress levels. In contrast, negative DC refers to partners coping in unhealthy ways and can take one of three forms: 1) ambivalent (e.g., partner providing support reluctantly or with the attitude conveying that his/her aid should not be necessary); 2) hostile (e.g., partner is sarcastic about or minimizes the other partner's concerns, criticizes or mocks the other partner); and 3) superficial (e.g., partner appearing detached or not actively listening; Bodenmann, 2005; Bodenmann & Cina, 2005; Bodenmann, Pihet, & Kayser, 2006; Falconier, Jackson, Hilpert, & Bodenmann, 2015). In addition to partner-oriented behaviors (supportive, delegated or negative DC), this concept also includes couple-oriented behaviors. These consist of joint DC, wherein both partners participate in the coping process together or complementarily in order to cope with a common stressor by engaging in problem- and emotion-focused joint coping strategies. Strategies like joint problem-solving and information-seeking, sharing of feelings, mutual commitment, or relaxing together can be used in joint DC (Bodenmann, 2005).

Dyadic coping can also have two main functions. One is mainly stress-related, and aims to restore the general wellbeing of both partners, by reducing the stress of one partner or the stress that affects both partners at the same time ('we stress'). The other function is more relationship-related and consists on strengthening partners' commitment to each other and fostering mutual trust and intimacy (Cutrona, 1996).

The STM is therefore based on a systemic understanding of stress and coping. This means that one cannot examine the stress appraisals and coping efforts of one partner, without considering the effects that these appraisals and efforts have on the other partner, as well as on the relationship (i.e. the system). This model also takes into consideration the interdependence between partners, wherein the experience of stress and coping efforts of one partner eventually affects the other partner as well as the relationship, as both partners appraise and respond to the stressful situation together (Bodenmann, 2005). This is of major importance in the context of couples grieving concurrently for the death of a child, and particularly because of the interdependence and interpersonal effects attested in recent research on this topic (Stroebe et al., 2013; Wijngaards-de Meij et al., 2008).

This theoretical model was first developed to assist partners to cope with their daily hassles (i.e. minor stressors), and was later expanded to assist partners who experienced chronic stress in their everyday life (Bodenmann, 2005). Later, management of major stressors associated with critical life events has also been explored (Bodenmann, 2005; Revenson & DeLongis, 2011). Regarding the link between DC and individual adjustment, to the best of our knowledge, only one study explored DC of parents after the death of a child (Bergstraesser, Inglin, Hornung, & Landolt, 2015). In this qualitative study, it was found that supportive DC from the partner and particularly joint DC (demonstrated by sharing emotions and maintaining CB with the child such as joint grave attendance) helped parents to manage their grief not only as a couple but also as individuals. Because the death of a child is a shared and interdependent critical life event that posits special challenges for parents both individually and as partners, the exploration of DC in bereaved couples is especially important.

## 3. Research gaps and current challenges

As apparent in the abovementioned models of adjustment, research on grief, loss and intervention aspects have offered increasing insight on specific aspects of the bereavement experience, such as grief, CB, individual coping and PTG. Research with bereaved parents has indeed expanded in the past couple of decades. However, the focus was especially on individual processes, despite the evidence of the effects of such

traumatic event on relationships and of the interpersonal context in which parental grieving occurs. This is even more important, considering that bereaved parents share the loss of their child and, therefore, the psychological adjustment of the parents within a couple is not independent (Wijngaards-de Meij et al., 2008). For instance, research is still rather limited on how and why the child's death influences the couple's relationship and on why couple's relationships improve or collapse. Also, the role of different dimensions of the marital relationship in individual adjustment remains underexplored. Likewise, little is currently known about the lives of bereaved couples who remain together following the death of their child, emphasizing a relevant gap in research of how parents as marital partners cope with, survive and can even grow stronger with this traumatic event.

This research project is therefore pertinent to trauma, grief/loss, and relationship research due to its focus on: (1) the specific effect of the traumatic event of the death of a child on marital relationships and on the potential protective effect for the parents individually of the interpersonal and dyadic processes; and (2) the complex and bidirectional relationship between grief (and individual adjustment) and the marital relationship, and interdependence in coping in bereaved couples. This focus therefore contributes to a better understanding of this topic, provides a template for continuing research on the analysis of marital relationships after the death of a child, and promotes the improvement of therapeutic interventions with bereaved parents.

In addition, as noted, existing studies on bereaved parents have focused predominantly in ascertaining, measuring, and portraying parental grief reactions with the goal of identifying parents who are at high risk for poor outcomes, overlooking the focus on parents' strengths and individual resources (Polatinsky & Esprey, 2000). Along with the research on relationships' survival and growth, the emergent salutogenic features of grieving, namely growth and meaning-made should also be taken into account when examining the individual adjustment of bereaved parents. This study will elaborate on current knowledge by focusing on positive indicators in the adjustment to a child's loss, such as posttraumatic-growth or meaning-made, therefore expanding the traditional focus on negative indicators on parental individual adjustment.

Finally, studies with bereaved parents have generally been quantitative in design (Schwab, 1992). Although these studies have made substantial contributions to the state-of-the-art, by showing the predictors and variables associated with parents adjustment (e.g., Stroebe & Schut, 2001b), it is also important to explore the needs of bereaved parents from their own perspectives (D'Agostino, Berlin-Romalis, Jovcevska, & Barrera, 2008). This is particularly relevant because bereaved parents have unique and valuable insights of their grief and adjustment process and, accordingly, they can help in the identification of key components intrinsic to the development, implementation and maintenance of comprehensive intervention programs focused on parental bereavement.

A deep understanding of the phenomenon of parental bereavement and an approach that acknowledges the multidimensional and dynamic complexity of bereaved parents' grief after the loss of a child are essential. Hence, the multi-method approach used in this research project, which encompasses individual and relational/interpersonal dimensions, will be particularly relevant, in order to provide an extensive analysis of the experience and coping of bereaved parents, as well as to inform clinicians, researchers and the general public.

# Chapter II

# Objectives and Methodological Framework

This research project comprised three distinct phases: (1) a systematic review of the current literature on the topic of marital adjustment of bereaved parents; (2) the examination of the adjustment processes and outcomes in a sample of bereaved parents, including both quantitative and qualitative data purposely collected for this project; and (3) the examination of interdependence among bereaved couples, using the dyadic longitudinal data collected in the context of a previous research project on the impact of the loss of a child on bereaved couples, conducted at the University of Utrecht, The Netherlands.

## 1. Research objectives[3]

The research gaps on the topic of the individual and marital adjustment of bereaved parents outlined in the former chapter and in the systematic review guided the definition of the objectives for the present research project. This project intends to offer an innovative understanding, both conceptually and methodologically, by including: (1) quantitative and qualitative methodologies; (2) longitudinal and cross-sectional data; (3) perspectives of bereaved parents, both as individuals as well as partners in a couple's relationship; and (4) positive outcomes of adjustment to the loss of a child, defying the overall focus in existing literature on negative outcomes (e.g., grief response, psychological distress). Considering the complexity and specificity of parental bereavement, this research project had four **general objectives:**

1. To obtain a multidimensional view of individual and relational processes inherent to the adjustment of bereaved parents.
    1.1. To explore the impact of the death of a child in the marital relationship and associated variables.
    1.2. To explore the influence of the marital relationship in individual adjustment.

[3] Because this PhD dissertation includes independent journal submissions, there will be redundancy in some descriptions of this section.

2. To identify the determinants and processes underlying parents' individual adjustment to a child's loss.
    2.1. To identify the individual determinants and processes (e.g., sociodemographic characteristics, resilience, continuing bonds, individual coping processes) underlying parents' individual adjustment.
    2.2. To identify the shared determinants and processes (e.g., circumstances related to child's death) underlying parents' individual adjustment.
    2.3. To identify the relational determinants and processes (e.g., dyadic coping; interdependence) underlying parents' individual adjustment.
3. To identify the determinants and processes underlying parents' marital adjustment to a child's loss.
    3.1. To identify the individual determinants and processes (e.g., grief response) underlying parents' marital adjustment.
    3.2. To identify the shared determinants and processes (e.g., circumstances related to the child's death) underlying parents' marital adjustment.
    3.3. To identify the relational determinants and processes (e.g., dyadic coping and parents' perceptions of positive interpersonal coping) underlying parents' marital adjustment.
4. To examine the interdependence and interactive processes among bereaved couples.
    4.1. To examine parents' perceptions of interactive processes and relational dynamics as marital partners.
    4.2. To examine how one's individual factors (e.g., individual coping orientations) influence partner's adjustment outcomes (e.g., meaning-made).

The first general objective was addressed in a systematic review of literature (Study 0). The second general objective was addressed completely by the empirical study I and partly by the empirical studies IV and V. The third general objective was addressed by the empirical studies II, III and IV. To address the fourth general objective, study V was conducted. The specific objectives of each study are displayed in Table 1. The preliminary study and the empirical studies I through IV used a dataset with Portuguese-speaking parents purposely collected for this research project. Study V used a dataset of a research project on the

impact of the child's death on parents conducted at the Center of Bereavement Research (University of Utrecht, The Netherlands). It is important to note that Study 0 (Systematic Review) is designated as such because it refers to a preliminary study that do not correspond to the central objectives of this project, but that was fundamental to the accomplishment of some of the objectives of this research project (e.g., objective 2.1).

**Table 1** | Specific objectives of the studies

| Studies | Specific objectives |
|---|---|
| **Preliminary study** | |
| To assess the psychometric properties of the Continuing Bonds Scale (CBS-16) in a sample of Portuguese-speaking bereaved parents. | |
| **Systematic Literature Review** | |
| To present a systematic review of the current knowledge on:<br>• the effects of the death of a child on the marital relationship;<br>• the effects of the marital relationship on parents' individual adjustment;<br>• the role of situational, dyad-level and individual-level factors in the heterogeneity of outcomes for the marital relationship.<br>To systematically assess and summarize the methodological aspects and ethical considerations of recent studies. | |
| **Empirical studies** | |
| **I: Posttraumatic Growth** | To examine posttraumatic growth among bereaved parents.<br>To propose a multidimensional model consisting of sociodemographic / situational, intrapersonal and interpersonal factors associated with posttraumatic growth. |
| **II: Dyadic Coping** | To examine the forms of dyadic coping as mediators of the association between parents' grief response and dyadic adjustment.<br>To determine whether these indirect effects were moderated by the child's type of death, timing of death and age. |
| **III: Interpersonal coping** | To examine parents' perceptions of positive interpersonal coping processes that helped their relationship after the death of their child. |
| **IV: Interactive processes** | To examine parents' perceptions of:<br>- interactive processes as marital partners;<br>- relational dynamics;<br>- the interconnection between the individual and relational realms. |
| **V: Interdependence** | To examine whether bereaved parents meaning-made was influenced by their own and their partner's coping orientations. |

## 2. Methodological Framework

### 2.1. Research project design

Paradigms emerge from a set of truths or beliefs through which individuals build knowledge about their world (Houghton, Hunter, & Meskell, 2012) and are shaped by two pivotal concepts: (1) ontology that concerns with what exists and what is believed to be true (Blaikie, 1993); and (2) epistemology that relates to the ways of demonstrating what exists and gaining knowledge of something (Snape & Spencer, 2003).

The present research is enclosed in the paradigm of pragmatism, which allows the researcher to mix methods and implement whatever epistemological and methodological approach fits best the research question within a real-world context (Hanson, Creswell, Clark, Petska, & Creswell, 2005). Though traditionally, quantitative and qualitative research were seen as incompatible (Lincoln & Guba, 1985; Teddlie & Tashakkori, 2003), multi-dimensional research strategies have been recently proposed to challenge the so-called qualitative-quantitative divide. These are coherent with Mason's (2006a, 2006b) argument focusing on the important contribution of different methodologies aimed at answering distinct but interconnected research questions.

This research project comprised therefore a multi-method research approach, encompassing quantitative and qualitative methodologies, both in the data collection and analyses, with the aim of providing a broad and multidimensional understanding of the individual and dyadic processes and adjustment to the death of a child, as well as opportunities for new insights that advances knowledge on this topic. This project assumes therefore a parallel logic, in which each study has its own logic of design, data generation, objectives, analysis and explanation, and these run in parallel (Mason, 2006a, 2006b).

The data used in the research project is illustrative of our epistemological positioning. They come from different samples and, consequently, they differ on their origin, objectives and analytic procedures. Overall, our multi-method approach comprised (see Figure 1):

- Two strands of cross-sectional data:

  - quantitative data collected from a set of self-report questionnaires completed by 197 bereaved parents;
  - qualitative data collected from additional in-depth interviews with 18 of the participants of the quantitative study.
- One strand of dyadic longitudinal data collected from a sample of 227 couples (time assessments at 6, 13, and 20 months after the child's death).

The cross-sectional data strand was collected purposely for this research project at a single moment, corresponding to phase II of this project (examination of adjustment outcomes and processes in a sample of bereaved parents, including both quantitative and qualitative data). Restrictions on the time available for data collection within the context of a PhD excluded the option of collecting longitudinal data in this data strand. Hence, in the third phase of this research project, and in the sequence of our period of supplementary research activities at the Department of Clinical Child and Family Studies, Vrije Universiteit Amsterdam (The Netherlands), we used longitudinal data collected in the context of a Dutch research project on the impact of the loss of a child on bereaved couples conducted at the Center of Bereavement Research of the University of Utrecht. In this study, we used dyadic longitudinal data collected at 6, 13, and 20 months after the child's death from bereaved couples, as well as dyadic analytic analyses (Kenny, Kashy, & Cook, 2006). In the next sections, we describe the general procedures of research phases II and III.

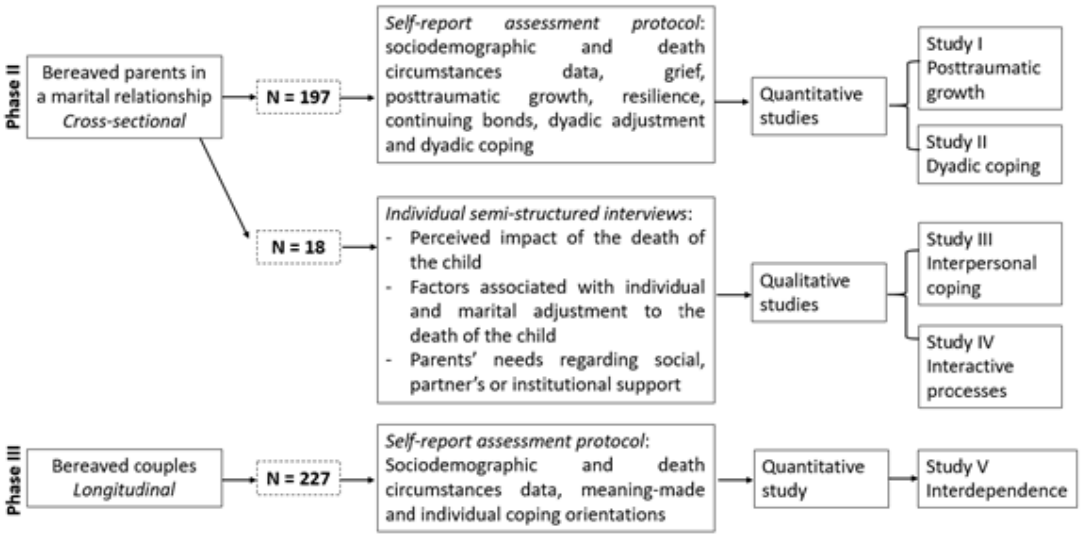


**Figure 1 |** Design outline

## 2.2. Participants and procedures: Research phase II

Regarding **participants**, the following inclusion criteria were defined for both quantitative and qualitative studies: (1) having lost a child by death; (2) being married or cohabiting; (3) minimum time since death of six months (to avoid the crisis period; e.g., Stroebe, Stroebe, & Schut, 2003); and (4) being at least 18 years of age. To maximize responses and subsequent power of statistical comparisons, as well as to identify common features of the parental bereavement phenomenon across a range of bereavement experiences, the recruitment criteria were kept as wide as possible. Specifically, several efforts were made to ensure diversity regarding children's age and cause of death. Moreover, past research reported continuing grief in bereaved parents over many years (Arnold, Gemma, & Cushman, 2005), which suggests that parental bereavement may be a lifelong challenge. Thus, no maximum limit regarding the time after death was defined. Furthermore, the length of time since the child's death was wide in order to get information from parents at different stages of time and course of their marital relationship. These methodological options facilitated collecting reliable and valid data from a large number of participants quickly and cost-effectively. In the quantitative strand of this project 197 bereaved parents participated and interviews were conducted with 18 bereaved parents.

In qualitative analysis, sample size is determined when reaching the point of saturation, where no new themes emerge (Strauss & Corbin, 1998). However, Mason (2010) claims that the point of saturation is a rather difficult point to identify and the cut off between adding vs. not adding to emerging findings, might be considered arbitrary. In this project, data from the last two in-depth interviews conducted did not significantly alter emerged themes. In addition, participants provided comprehensive, rich, substantial, and relevant data on the understanding of parental bereavement. Charmaz (2012) established this aspect as the priority, rather than the number of participants. Therefore, the sample was relatively small, yet appropriate for the constructivist grounded theory and adequate to achieve data saturation, given the high quality of gathered material (Morse, Penrod, & Hupcey, 2000). It is worth noting that the qualitative studies had slightly different sample sizes. Study III focused on positive interpersonal coping and interviews of 17 parents were analyzed. Study IV focused on parents' interactive processes and 18 interviews were analyzed. This difference was due to the fact that one participant did not have any theme

coincident with positive interpersonal coping and therefore was excluded from the study focused on this topic (Study III).

Concerning **procedures**, the studies from the research phase II were approved by the Ethics Committees of the hosting institution (Faculty of Psychology and Education Sciences of the University of Coimbra) and several hospitals across the country. Forewarning the difficulty in the sample collection, particularly because of the sensitivity of this topic, several strategies were applied regarding the research project dissemination: 1) creation of a Facebook page containing a summary of the research project, general objectives, participation invitations, and instructions on how to participate; 2) emails sent to diversified mailing lists inviting to participate in the study or dissemination of the research project by personal contacts; 3) brief presentation of the research project in selected grief-related websites and blogs; 4) brief presentation of the project in grief-related groups in social networks; 5) dissemination of the project among mental health professionals in several hospitals throughout the country; 6) presentation of the project in the health institutions that had previously agreed to collaborate in the data collection. This variety of strategies allowed for the project to disseminate among bereaved parents throughout the country, and with and without internet access, therefore contributing to widening the diversity of the sample.

As previously noted, this project involved both quantitative and qualitative strands. For the quantitative strand of this research project, the participants were recruited through a non-probabilistic convenience sampling method. The data collection was conducted between November 2013 and May 2015. Parents who learned about the study and who were willing to participate, had access to the website link directly through the main researcher or through the dissemination strategies described above. The quantitative component of this research project involved the completion by bereaved parents of a set of self-report questionnaires, which could be accessed through an online survey on the website of the hosting institution or via paper-based questionnaires. In the paper version, participants were asked to complete the set of questionnaires and to return it anonymously in a sealed envelope directly to the main researcher or to the health professionals in the participating national hospitals. The informed consent was attached to both forms of the assessment

protocol (online or paper versions). Overall, no differences were found in the study variables between participants who completed online- and paper-based questionnaires.

The qualitative strand, being exploratory, used a purposeful sampling method. In this strand, participants that had the experience under consideration (death of a child) were targeted. This is consistent with the principles of a qualitative approach (Smith, Flowers, & Larkin, 2009). Regarding data collection, those participants who consented to participate in the quantitative assessment were purposefully selected as a rich source of data. After participating in the quantitative assessment, bereaved parents were invited to participate in a subsequent phase of the research project (qualitative studies). Parents who indicated interest provided their contact information. In the qualitative phase, eligible parents were contacted by email by the researcher and followed up with a previously allowed telephone call to clarify any questions regarding the study's aims and procedures, and to reinforce the ethical considerations. The telephone calls served also as a way to develop participants' familiarity with the interviewer and begin the rapport-building process, essential for eliciting parents' in-depth thoughts on this challenging topic. Specifically, in these phone calls, the researcher asked parents to tell a bit of their story (e.g., when their child died, name and age of child, how they were doing at the moment). The researcher attempted to call the potential participants only once in order to preserve their privacy and not to intrude. The interviews were conducted over four months (from January until April 2015) in a mutually beneficial time and location. The informed consent was presented and completed and all participants provided consent for the audio-record of the interviews.

### 2.3. Participants and procedures: Research phase III[4]

Regarding **participants**, the following exclusion criteria were defined: (1) being single; and (2) being a grandparent (i.e., those parents whose deceased child was a parent him/herself). This study (V) included as points of measurement 6, 13 and 20 months after the child's death.

[4] More detailed information is available in:
Wijngaards-de Meij, L. (2007). *Psychological adjustment among bereaved parents: individual and inter-personal predictors*. (Unpublished doctoral thesis). University of Utrecht, The Netherlands.

Concerning **procedures**, the study from the research phase III was approved by the Research Institute of Psychology and Health's ethical committee at the Utrecht University, The Netherlands. In total, 463 Dutch bereaved couples were identified via obituary notices that were obtained through the archives of local and national newspapers in the Netherlands between 1996 and 1998. Participants were selected in accordance with the non-probability sampling method of convenience sampling, which involved the collection of data from bereaved couples who were willing to participate. At least six months after the loss, parents were sent a letter and were called by phone to inquire about participating in the study.

## 2.4. Measures

### 2.4.1. Quantitative data

Our quantitative data was collected through: (1) self-report questionnaires focused on parents' and offspring's sociodemographic data as well as data regarding the circumstances of the child's death, and purposely developed by the authors for this project; and (2) self-report questionnaires with the objective of operationalizing the variables targeted in the quantitative empirical studies.

Regarding socio-demographic information, parents provided information on their own sex, age, marital status (single, married, cohabiting, separated/divorced or widowed), length of the marital relationship, educational level, employment status (employed, unemployed, retired or student), existence of other children (yes/no question), area of residence (rural or urban), religious affiliation, past and current medical or psychological problems, prescribed medication, number of children, desire of having more children, household composition, couples' rituals before and after the death of the child, significant life events, help-seeking behaviors, and need and satisfaction with support. In addition, parents provided information on their offspring's sex and age at the time of death, time since death, expectedness of death (yes/no question), cause of death (fetal death, illness, accident, neonatal death, sudden death, suicide or homicide), place (hospital, home or other) of death, presence at the time of death (yes/no question), and having said goodbye (yes/no question).

With regards to the self-report questionnaires with the aim of operationalizing the variables targeted in the quantitative empirical studies, in this project, we favored those that fitted the following generic methodological criteria: (1) suitability for the operationalization of multi-dimensional constructs, including complementary assessment of both positive and negative dimensions of individual and dyadic adjustment; (2) shorter versions (when available) of the self-report questionnaires, therefore allowing for an economic and brief assessment of a large number of variables/dimensions, while minimizing the participants' response burden.

In phase II of this project, the preference was given to measures that had translated versions available in the European Portuguese language and psychometric robustness, in terms of reliability and validity in Portuguese samples. Of the selected set of questionnaires, only the Continuing Bonds Scale (CBS-16) did not fit this criterion and, thus, the preliminary study of this research project aimed to develop the European Portuguese version of the CBS-16 and to conduct its psychometric studies in a sample of Portuguese-speaking bereaved parents (see Attachments).

In research phase III (Study V), the measures that have been used were purposely developed for the original Dutch project, in which the sample was collected and the psychometric studies have been previously conducted.

Table 2 presents a summary of the instruments and variables used in each empirical study. Detailed specifications of the measures are present in the method's section of the respective empirical studies (Chapter 3).

Overall, all self-report questionnaires used in this research project presented adequate psychometric properties in the Portuguese validation studies. As well, regarding reliability, in our study samples, all Cronbach's alphas coefficients were above .70, with the exception of the negative DC by oneself (subscale of the Dual Coping Inventory; $\alpha = .67$).

**Table 2** | Instruments and variables for each empirical quantitative study

| Instruments | Variables | Empirical Quantitative Studies | | |
|---|---|---|---|---|
| | | I | II | V |
| **Individual Adjustment** | | | | |
| **Prolonged Grief Disorder Scale**<br>Prigerson, Vanderwerker, & Maciejewski, (2007)<br>PV: Delalibera, Coelho, & Barbosa (2011) | Grief response, | | ✓ | |
| **Post-Traumatic Growth Inventory-Short Form**<br>Cann et al. (2010)<br>PV: Lamela**,** Figueiredo, Bastos, & Martins (2014) | Post-Traumatic Growth. *Subscales*: Strength, spiritual change, relating to others, appreciation of life, and new possibilities. | ✓ | | |
| **Meaning-made**<br>Stroebe et al. (2016) | Meaning-made, involving sense-making and benefit-finding. | | | ✓ |
| **Marital Adjustment** | | | | |
| **Revised Dyadic Adjustment Scale**<br>Busby, Christensen, Crane, & Larson (1995)<br>PV: Pereira, Moura-Ramos, Narciso, & Canavarro, (2017) | Dyadic Adjustment. *Subscales*: Consensus, satisfaction and cohesion. | | ✓ | |
| **Individual Factors** | | | | |
| **Dual Coping Inventory**<br>Wijngaards-de Meij et al. (2008)<br>PV: Albuquerque, Narciso, & Pereira (ongoing psychometric studies) | Dual Coping. *Subscales*: Loss coping orientations and Restoration coping orientation. | | | ✓ |
| **14-Item Resilience Scale**<br>Wagnild & Young (1993)<br>PV: Oliveira, Matos, Pinheiro, & Oliveira (2015) | Resilience. *Subscales*: Meaningful life (purpose), perseverance, self-reliance, equanimity and existential aloneness. | ✓ | | |
| **Continuing Bonds Scale**<br>Field & Filanosky (2010)<br>PV: Albuquerque, Silva, Narciso, & Pereira (ongoing psychometric studies) | Emotional attachment after the death. *Subscales*: internalized and externalized continuing bonds. | ✓ | | |
| **Dyadic Factors** | | | | |
| **Dyadic Coping Inventory**<br>Bodenmann (2008)<br>PV: Vedes, Nussbeck, Bodenmann, Lind, & Ferreira (2013) | *Dyadic Coping Subscales*: Stress Communication, and Positive and Negative Dyadic Coping (the perception of one's own coping; the perception of the other's coping); Joint Dyadic Coping. | ✓ | ✓ | |

***Note.*** PV = Portuguese version

### 2.4.2.The semi-structured interview

Qualitative data were collected through in-depth semi-structured interviews that lasted on average approximately 90 minutes (range: 40-180 minutes). The objective of an interview is not to test hypotheses, but to understand the experiences of others by considering the impact of the meaning they attribute to them (Seidman, 1998). In this research project, the interviews were conducted individually by the main researcher in order to: (1) minimize the chances of the participants to conceal pertinent information that could potentially hurt partners' feelings, and (2) to improve our chances of gathering information provided with authenticity and depth (e.g., Eisikovits & Koren, 2010).

#### 2.4.2.1. The interview script

The interview script was structured in order to allow for the collection of thick descriptions regarding the couples' relationship, being therefore in compliance with the aims of the present project. Nevertheless, it had the openness and flexibility warranted to accommodate new themes derived from the participants' narratives, in compliance with the methodology used for the analysis of the qualitative data - constructivist grounded theory (CGT; Charmaz, 2006). The interview guide included questions that were broad and open-ended with enough structure to ensure that data across participants would be comparable. It included the following three main topics on the parents' bereavement experience, namely the parents individually, the couple's relationship and the broader social context: (1) perceived impact of the death of the child (e.g., "What changes have you identified in yourself, in your marital relationship as well as in the relationships with other people after the death of your child?); (2) factors associated with individual and marital adjustment to the death of the child (e.g., "Which aspects do you believe to have contributed to your marital adjustment to this event?"); and (3) parents' needs regarding social, partner's or institutional support (e.g., "Which needs have you felt regarding your relationship with your partner and with others?"). The data collected from the interviews provided rich information that will be analyzed from different angles in future studies. In this research project, we specifically focused on the data related to the couple's coping after the death of the child (Study III), and the relational dynamics and the association between the individual and the relational realms (Study IV).

For the sake of methodological coherence, all interviews were carried out by the same interviewer and all participants were asked generally the same questions, and were allowed to clarify any areas of confusion with the researcher. To strengthen the parents' narratives and to ensure validity, iterative questioning was used, in which the interviewer returns to matters previously raised by the participants and extracts related data through rephrased questions. Initial answers were also probed for more details (e.g., "Could you elaborate?"; "Could you give specific examples?"). In addition, minimal encouragements, summarizing, and clarifications were used to facilitate the interview process. At the end of each interview, participants were asked to determine the representativeness and comprehensiveness of their participation in the interview (e.g., Do you have something to add regarding your individual and dyadic adjustment to the death of your child?). Finally, we also used memos during the research process that recorded descriptions of what the researcher observed and experienced, and served as a reminder of important ideas that emerged during the interview that were explored in ongoing data collection.

## 2.5. Data analysis

Separate analyses of quantitative and qualitative strands were carried out, using methods appropriate to the specific aims of the studies, described in the proper sections within the manuscripts (see Chapter 3). In this topic, we will elaborate on the cross-cutting analytical options that sustained the reliability of the quantitative (effect sizes and non-independence of couples) and of the qualitative studies (rationale for and trustworthiness of CGT research).

### 2.5.1. Quantitative studies: Estimation of effect sizes

To assess the statistical significance of our results, the conventional level of significance $\alpha < .05$ was adopted. However, the statistical significance does not allow assessing the practical significance of a result, such as the importance of its implications for the society (Ellis, 2010; Ferguson, 2009). Thus, the American Psychological Association (APA, 2010) also recommends the consideration of the effect size because it allows the quantification of the strength of an association or the magnitude of the difference between the levels of an independent variable and the dependent variable. Other advantages refer to allowing for the comparison of studies and the calculation of the necessary sample size to detect

the expected effect (as well as power) in a given study (Ellis, 2010). In the empirical studies, we estimated, in compliance with the statistical tests, the effect size of the results and the respective interpretation (small, medium and large effects; Cohen, 1990). In the simple mediation models (Study II) Preacher and Kelly's kappa-squared ($k^2$) was used as an estimate of the effect size of the indirect effects and a post hoc power analysis for indirect effects revealed values nearby or above .80 (alpha < .05), an value considered adequate in Psychology (Cohen, 1990). In the regression analysis (Study I), the $f^2$ was used (Cohen, 1992).

### 2.5.2. Quantitative studies: Dyadic analysis

Research suggests that the observations of both members of a couple cannot be treated as independent (Kenny et al., 2006). According to these authors, the non-independence of the members of a couple means that they share something in common, i.e., the characteristics of two members of the same couple are more similar than the characteristics of two members of different couples. Moreover, the non-independence is explained by four factors: 1) the similarity between two people, even before they became a couple (since similarity fosters the interpersonal attraction; Regan, 2011); 2) the partner effect (a characteristic or behavior of one partner affects the other); 3) mutual influences between two members of a couple; and 4) exposure to the same events and influences (Kenny, 1996).

Indeed, parents within a couple lose the same child and have therefore more in common comparing to two independent parents who lose different children. Consequently, parents share numerous aspects and their adjustment is not independent (Wijngaards-de Meij et al., 2008). Indeed, the disregard of the fact that the responses of parents who have lost a child are neither psychologically nor statistically independent may lead to spurious results (Hox, 2002).

Therefore, the non-independency of bereaved couples was taken into consideration in our studies. Specifically, in the quantitative studies of phase II, when complete couples were included as separate observations in the individual-level data file, one member of the couple was randomly selected (Studies I and II). The low number of complete couples did not allow for enough power to conduct multilevel analysis. In the study examining dyadic

longitudinal data (Study V, Phase III) we used multilevel modeling using SPSS 20.0's Mixed Models and the Actor-Partner Interdependence Model (APIM) where actor (own) and partner effects are estimated simultaneously, while controlling for each other (Kenny et al., 2006; Kashy & Donnellan, 2012).

### 2.5.3. Qualitative studies: Rationale for a constructivist grounded theory methodology

Qualitative methodology is particularly well-suited in research that aim to explore the nature, meaning, perception and comprehension of specific subjective and sensitive experiences (Charmaz, 2012). Parental bereavement combines all these characteristics, and thus, in addition to a quantitative assessment, we used qualitative methodology because it gives voice to the bereaved parents and allows them to share insights, therefore ensuring that the information gathered is not limited by the questions asked and pre-determined hypotheses.

A grounded theory approach moves beyond a thematic description of an experience, by including an exploratory and interpretative nature of data collection and analysis, which provided an opportunity for a deep understanding of the parents' grief experience (Charmaz, 2006). In addition, a grounded theory approach enables, through an ongoing comparison and analytical interpretation of the data, the discovering of relationships among concepts that ultimately lead to a constructed theory (Charmaz, 2012).

In this study, constructivist grounded theory (CGT) was used as the main methodological strategy for the qualitative data analysis (Charmaz, 2006) and thus we did not make any theoretical predictions; theories were a product of the data that emerged during the research process. For example, the line-by-line coding (initial phase of analysis) ensured the researcher's awareness of the actions, tacit assumptions, and implicit concerns embedded in the text, as opposed to attributing actions to predetermined ideas (Charmaz, 2012).

Compared to traditional versions of grounded theory, CGT adopts innovative features, such as the importance placed on context, the role of the researcher in the construction of the theory (reflexivity) and the existence of previous knowledge about the subject (Holton,

2008). Charmaz (2012) stated that grounded theorists frequently initiated their studies with specific assumptions and views derived from the literature review that molded the research topic and the conceptual emphasis. The initial conceptions alerted researchers to ask certain types of questions about a topic, provided an analytical perspective from which to contemplate and interpret data, and facilitated the appropriate placement of the study's findings (Charmaz, 2012; Denzin & Lincoln, 2011).

### 2.5.4. Quality of qualitative research: Trustworthiness

Due to space constraints, it is unfeasible to elaborate extensively the methodological issues in the qualitative articles. Therefore, the trustworthiness of our qualitative research will be presented with more detail in this topic.

In accordance with the recommendations by several qualitative researchers (e.g., Lincoln & Guba, 1985; Morse, Barrett, Mayan, Olson, & Spiers, 2002), specific strategies were used to evaluate and ensure the trustworthiness and rigor in the qualitative research process:

- We strived to achieve methodological coherence in order to ensure congruence between the research question, the data and the analytic procedures, which resulted in the adoption of a well-established research method (CGT);
- Our study sample was adequate as it consisted of participants who best represent or have knowledge of the research topic (bereaved parents). This aspect contributed to a more efficient and effective saturation of categories, with optimal quality data and minimum dross;
- We looked for and analyzed negative/deviant cases, by indicating aspects of the developing analysis that were initially less obvious, which contributed to revising, broadening and confirming the patterns emerged from the data analysis;
- The researcher's professional qualifications, experience and education has led to proficiency in conducting interviews and added confidence in the obtained findings. The researcher's familiarity with bereavement experiences evolved through work with bereaved individuals, and through a three-year specialization as a Grief Therapist by the Portuguese Society of Studies and Grief Intervention (SPEIL);

- Data was collected and analyzed concurrently. Ideas emerging from data were reconfirmed in new data; this gave rise to new ideas that, in turn, were verified in data already collected. This process allowed for a continuous elucidation on what was known and what needed to be known;
- Analytic memos were written to record the associations among the clustered units of data, emerging theories hypotheses, methods used, ongoing analytical decisions and the researcher's possible personal biases upon the data. This strategy allowed for 1) epistemological reflexivity, concerned with the rationale applied to shaping the study design and method selection, and 2) personal reflexivity, whereby the researcher makes known their values, experiences, beliefs and interests that may influence the research (Nightingale & Cromby, 1999). Also, as previously noted, constructivist grounded theorists are supposed to gain familiarity with the existing literature and therefore multiple theoretical perspectives were used to examine and interpret the data (theory triangulation); however, it was important to maintain an awareness of personal theoretical assumptions but, at the same time, it was vital to remain open to the new possibilities reflected in the data (Charmaz, 2012).
- Regular (typically weekly) debriefing meetings of the research team provided a forum for assessing emerging themes, discussing alternative approaches, whether research objectivity was being threatened by the researcher's personal viewpoints, and seeking to come to a common and agreed understanding of the findings. Also, the findings of this research project were subjected to peer scrutiny, namely at conferences' presentations.
- Informal member checking was done during each interview, through iterative questioning. Interview checks using questions to determine whether or not the participants experience was fully represented were also used. However, formal member checks, in which the findings are returned to the participants, were not done. This option was chosen because findings have been synthesized, decontextualized, and abstracted from (and across) individual participants; therefore, there was no reason for individuals to be able to recognize themselves or their particular experiences (Morse, 1999).

Collectively, all these strategies incrementally and interactively contributed to the trustworthiness and rigor of the qualitative research of this project.

## 2.6. Ethical and Practical considerations[5]

Our research project was conducted in compliance with the APA ethical principles regarding research with human participants (APA, 2010) and the World Medical Association declaration of Helsinki (1964, as revised in 2013). These professional associations have stressed that the rights, dignity and best interests of the participants must prevail over research goals, and enunciate a number of ethical principles concerning the researchers' professional conduct. Carrying out research with parents who have experienced the death of a child is particularly sensitive. Because they are a vulnerable population, care for participants must be prioritized over data. Therefore, careful attention was given to strategies for minimizing parents' distress.

The respect for ethical principles in phase II of this research project reflected the specific procedures adopted during the conception and implementation of the study, as well as during the dissemination of the results. Regarding phase III (data collected in the context of a previous Dutch research project), we only elaborate this topic on the ethical considerations regarding the dissemination of the results. Ethical considerations of the Dutch research project have been previously considered upon approval by the Research Institute of Psychology and Health's ethical committee at Utrecht University in The Netherlands.

### 2.6.1. Conception of the study

Beneficence was upheld throughout this research project, which compels researchers to seek to benefit the participants by improving the scientific knowledge on a specific topic, while safeguarding their welfare and ensuring that the research procedures do not cause them any physical or psychological harm. In order to contribute to the outlining of strategies to minimize the potential risks and discomforts of participation in research, we conducted a literature review on the topic and engaged in several debates with

[5] More information is included under the topic of ethical considerations in the systematic literature review (Study 0).

researchers and clinicians with clinical experience with the targeted population, namely in the context of the Interuniversity Doctorate in Psychology, Specialty Clinical Psychology – Subject area: Family Psychology and Family Intervention, as well as in the Grief Therapy specialization by the Portuguese Society of Studies and Grief Intervention. Several implications resulted from these debates namely regarding: (1) measures - an effort has been made not to burden the participants through the use of brief questionnaires strictly necessary to achieve the aims of the study; (2) time of assessment - a minimum of six months since death was established; and (3) data collection procedures - allowing the participants to define the most appropriate time and place for participation and preserve their privacy.

This preliminary evaluation of the potential risks and benefits of the research made possible the elaboration of a rigorous proposal that was submitted to and approved by the Ethics Committees of the Hospitals where the research was conducted as well as of the Faculty of Psychology and Educational Sciences of the University of Coimbra.

### 2.6.2. Implementation of the study

Following the approval of the Ethics Committee, we started the data collection phase, which was carried out in accordance with the methods and procedures presented in the submitted proposals.

In this project, we were keen not to unintentionally intrude on parents who wished to keep their experience private, ensuring their autonomy and self-determination. Therefore, in the quantitative part of the research project, parents' were not directly contacted by the researcher, as parents took the initiative of contacting the researchers or accessing the online survey. In the qualitative part, only parents who indicated interest in participating in the qualitative assessment and provided their contact information (in the online survey or paper version of the set of questionnaires) were contacted. Furthermore, for the qualitative phase, we avoided contacting the parents on the period regarding the child's death (one month before and after) as well as close to official holidays or birthdays. Regarding the self-report questionnaires this would not apply since the participants were the ones who took the initiative of participating. However, in the dissemination of the

project (namely through mental health professionals and in the health institutions), this aspect was highlighted.

The researchers provided information in the informed consent to all eligible participants about: (a) the objectives of the research project; (b) the inclusion criteria; (c) the participants' and researchers' roles; (d) any foreseeable risks of participation (e.g., triggering of painful memories and emotions); (e) potential benefits to themselves or others; (f) procedures and expected duration of the assessment; (g) confidentiality and anonymity of their answers in the set of questionnaires; (h) voluntary participation and right to refuse or withdraw at any time; and (i) researcher's contact information for any questions or clarifications regarding the study. We believe that bereaved parents are perfectly capable of choosing to give or not their informed consent in relation to research participation. Nevertheless, given the sensitivity of the topic and possible participants' vulnerability, in the interviews, the researcher remained particularly attuned to the emotional climate and well-being of the participants throughout the process.

The researcher's contacts were attached to the informed consent should participants desire to obtain support (e.g., information regarding grief support organizations) at any time following the completion of the self-report set of questionnaires or the interviews. In addition, specifically at the interviews, the researcher was always prepared to listen for as long as needed and at the end there was a debriefing process to address any problems or concerns that may have arose during the research. Any discomfort was addressed and parents were again encouraged to contact the interviewer in case they would need any kind of support.

Additionally, we have adopted some specific strategies to ensure the anonymity and confidentiality of the collected data both during data collection and data analysis. Regarding the quantitative research process, we only collected personal data that were absolutely essential to the sociodemographic characterization of the sample. In addition, we assigned an identification code to the participants; the data collected from the participants were entered in an electronic database and treated collectively only for research purposes. Regarding the qualitative research process, all identifying information was removed and a pseudonym was attributed to each participant. Participants were informed that only the researcher would listen to and transcribe the recorded interviews in

order to ensure their privacy. The researcher retained exclusive access to interactions with participants and to the study documentation through all phases of the study. Transcripts of the interviews were shared with a research advisor only after all identifying information of participants had been removed.

### 2.6.3. Publication and dissemination of the results

The data analyses and dissemination of the results of this project were conducted with accuracy, honesty and truthfulness. Only original and not fabricated data were submitted for publication and proper credit was given to the authors of any citations or quotations, thus not incurring in plagiarism. The authorships were defined according to the relative scientific or professional contributions of the researchers involved in any research phase, regardless of their relative status. Also, the sources of funding, institutional affiliations and conflicts of interest were stated in each manuscript. Finally, we sought to disseminate both the positive and inconclusive/unexpected findings. The results were made available to the scientific community through oral and poster presentations in national and international meetings and papers published in peer-reviewed journals.

# Chapter III

# Systematic Review and Empirical Studies

# Systematic review

## Couple's relationship after the death of a child: A systematic review

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# Couple's relationship after the death of a child: A systematic review

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**Abstract**

When a child dies, the parents must address the changes in their relationship as well as the way that these changes affect their individual adjustment. These two perspectives are addressed in this systematic review. Five databases were systematically searched for papers published in English between January 2000 and February 2014. Of the 646 publications, 24 papers met the inclusion criteria. The results suggest that a child's death can cause cohesive as well as detrimental effects on a couple's relationship. Variables that may produce differential outcomes for the marital relationship include situational factors, such as the cause and type of death and the child's age at the time of death; dyad-level factors, such as surviving children, the pre-death characteristics of the relationship, communication and incongruent grieving; and individual-level factors, such as the family of origin's processing of trauma, social support, religious affiliation and finding meaning. Aspects such as marital quality and the couple's interdependence were found to influence each parent's individual adjustment. Larger, prospective, ethically conducted studies should be implemented to consolidate these findings. Mental health professionals may benefit from a deeper understanding of the risk and protective factors regarding marital adjustment after a child's death.

**Keywords:** death of a child, parental bereavement, marital adjustment, couple relationship, dyadic interdependence.

## Introduction

The loss of a child is perhaps the worst event a parent could ever endure (Wheeler, 2001). Bereaved parents often experience a grief response that is pervasive, intense and enduring, as the death of a child can cause changes in several domains of the parents' life, including emotional, physical, financial, spiritual and social relationships (Rando, 2000). Parental grief is a personal and unique response and the fact that both partners are simultaneously grieving a significant loss differentiates parental grief from many other forms of grief. As married or cohabiting spouses (i.e., members of a couple), parents must address the impact of the death as individuals as well as addressing changes to their relationship as a couple (Rando, 2000).

Two important literature reviews on this theme have been conducted (Oliver, 1999; Schwab, 1998). Oliver (1999) stated that the death of a child can precipitate increased conflict and communication breakdowns within the marital relationship, with also serious negative repercussions for the bereaved couple's sexuality. However, although it is possible that the death of a child may lead to marital distress, this author stated that this does not necessarily mean that bereaved couples will end up divorced. The author concluded that divorce rates among bereaved parents were not higher than those in the general population or for parents facing similar stressors. Schwab (1998) reported similar results and took this matter further by stating that the well-known claim that there is an unusually high rate of divorce among bereaved parents is a myth. In fact, according to these authors, it seems that couples' relationships can not only survive the loss, but also be enhanced by this shared ordeal. To explain this variability in the literature, Oliver (1999) reported the role of grief responses, anticipatory grief, the quality of the marital relationship prior to the death and, although less central, the child's age. Finally, in an attempt to answer the question "why marital problems can develop when a child dies", this author presented the incongruity hypothesis, which states that marital problems arise when there are qualitative, quantitative, and/or temporal differences between partners in the way they cope with, express and experience their grief. In order to provide a more comprehensive theoretical perspective, Oliver (1999) pointed out two important theoretical frameworks for understanding the effects of child death on the couple: the attachment theory (Bowlby, 1980), and the trauma model (Berman & Sperling, 1995).

Schwab (1998) reported the types of loss (such as death due to murder) and circumstances leading to death as other variables that may contribute to differential effects on couples' marital relationships.

Considering the acknowledgement and importance given in Bowen's systems theory to the interdependence within families, this theory is used as a theoretical framework (Bowen, 1976). According to the systems theory, reactions of a family member affect others and their functioning. This interdependence exists because causality in systems is circular rather than linear (Shapiro, 2001). Therefore, as also noted by Oliver (1999), the loss and bereavement can have a significant impact on the marital relationship, but the reverse may also be true. The quality of the marital relationship exerts a powerful effect on bereavement outcome (Lang & Gottlieb, 1993) and parents who are able to grieve together and obtain comfort from one another may be more likely to resolve their grief with greater easiness (Gilbert, 1989).

Based on the noted above, considering the complex and bidirectional relationship between grief and the marital relationship, this systematic review aimed to present the current knowledge not only on the effects of the death of a child on the marital relationship (and associated variables), but also on the effect of the marital relationship on parents' individual adjustment to the loss. Besides furthering our understanding on bereaved couples and providing an analysis of the last 14 years of research on this topic, this review will also discuss useful implications for clinical interventions. By exploring the variables affecting the marital adjustment after the loss of a child, this review contributes to systematize not only the information about which couples are especially at risk, but also which variables seem to protect parents from marital disruption.

## Method

### Search Strategy and Data Sources

This review was conducted in accordance with the evidence-based guidelines for systematic reviews set forth in the PRISMA statement (The PRISMA Group, 2009). We identified published studies from January 2000 to February 2014 that included information about marital adjustment (and related variables) after the death of a child and the way the

marital relationship influenced parents' individual adjustment. The search was conducted in several relevant databases (B-On: Online Knowledge Library - Search, Ovid, Proquest, Web of Knowledge and Google Scholar) and by examining the reference sections of all relevant articles and books. A hand search was conducted of all issues from 2000 to 2014 in the journals *Death Studies* and *Omega: Journal of Death and Dying*. The Cochrane Library database was also searched for existing reviews.

In each database, we used the following four search terms: (1) "child", "daughter" or "son"; (2) "parent", "mother" or "father"; (3) "death", "grief", "bereavement" or "mourning"; and (4) "marital", "marriage", "conjugal", or "couple's relationship". Each individual search consisted of a combination of the four search terms connected by "AND". Each individual search within a database was then combined using "OR" to account for duplication (Appendix A in the Supplementary data).

**Study selection**

The abstracts were selected by applying the following inclusion criteria: (a) empirical study (quantitative, qualitative or mixed studies); (b) published in peer-reviewed journals or unpublished university dissertations; (c) written in the English language; (d) including only parents bereaved by the death of their child; (e) including both mothers and fathers; (f) including information about marital adjustment and stability after the death of a child and associated factors (e.g., marital outcomes after the death of a child, such as divorce); and (g) including information about the influence of the marital relationship on individual adjustment [marital relationship as a predictor of adjustment (e.g., grief response; health-related quality of life; depression, etc.)].

Given the previous literature reviews by Schwab (1998) and Oliver (1999) and to provide a recent view on the topic, studies prior to 2000 were excluded from this review. Studies focusing only on parents whose child died in the perinatal period were also excluded because these parents are likely to experience different difficulties, namely, few memories of the child to use as a way of mourning, a sense of biological failure, and the difficulty of society to recognize the full extent of such a loss (Wallerstedt, Lilley, & Baldwin, 2003).

By analyzing the titles of the publications, we were able to determine that most studies did not meet the inclusion criteria because they did not focus specifically on the topic. Nevertheless, all abstracts were analyzed, and full-text versions of those that met the inclusion criteria and presented original research on the topic were obtained and assessed. Data from these studies were extracted into evidence tables. The reference lists of all relevant papers were also cross-checked to ensure that no relevant article was left unexamined.

## Results

### Search results

A visual summary of the study selection process is presented in Figure 1. The search strategy yielded 646 studies as potentially relevant in our initial searches, of which 24 met the inclusion criteria and were included in the present review. For the purpose of this systematic review, studies were grouped by design type.

Therefore, eligible studies were classified into three categories: quantitative studies, qualitative studies and studies using mixed methods. Data from each eligible study were collected and summarized in tabular format (see Tables 1-3). Key information was collected on the study aims, sample characteristics, study design, relevant measures/data collection and relevant findings. The data were then discussed to ensure congruence of the information extracted.

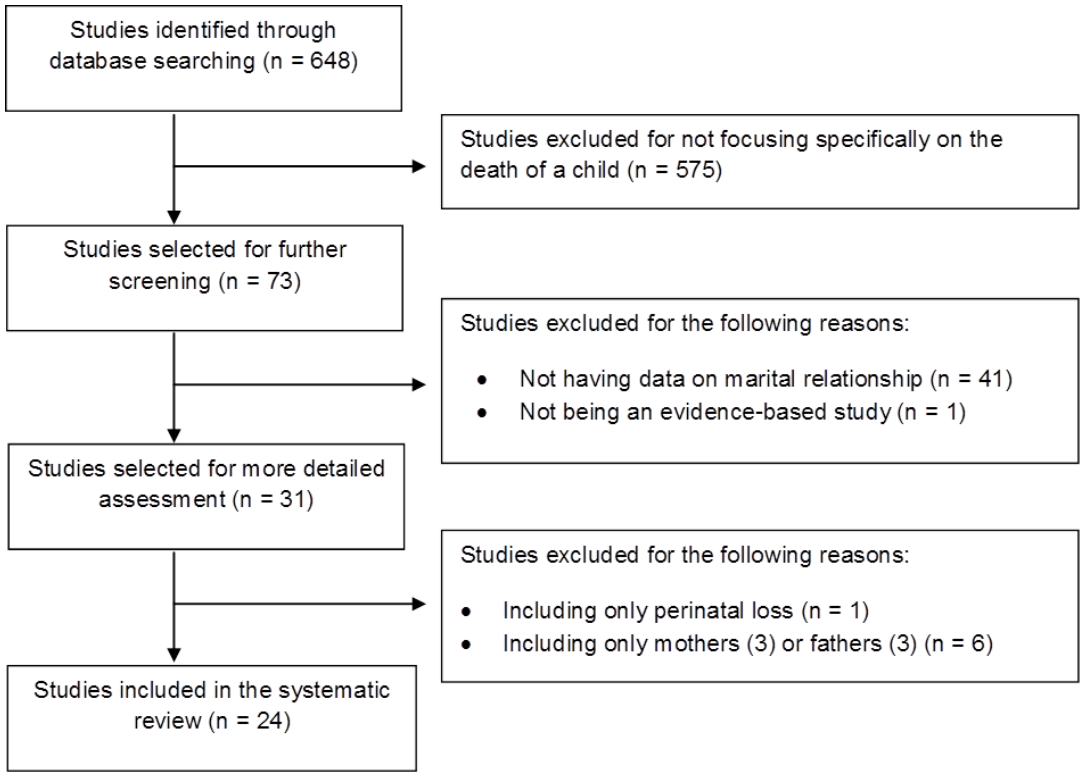


**Figure 1** I Flow diagram of the study selection process

**Overview of the included studies**

Of the 24 papers included in the present review, most studies were published in peer-reviewed journals (*n* = 20), with a smaller proportion of university dissertations (*n* = 4). The final 24 papers consisted of twelve quantitative studies, seven qualitative studies and five studies using mixed methods. Tables 1, 2 and 3 provide an overview of the characteristics of the 24 studies, separately by type of methodology. Comprehensive appraisal was guided by a quality assessment, which allowed for closer examination of the methodological soundness of each study.

**Table 1** I Summary of quantitative studies reviewed

| Authors | Study design | Sample | Child's age *M* (*SD*) / range | Assessment time / Time post-death | Relevant measures | Relevant results (for this review) |
|---|---|---|---|---|---|---|
| Bolton et al., 2003 | Quantitative, longitudinal | 1415 parents of children who died by suicide<br>1132 parents of children who died in a motor vehicle crash (MVC)<br>1415 non-bereaved parents | Suicide *M (SD)* = 30 (10.8)<br>MVC *M (SD)* = 25 (11.0) | Pre-death period (2 years prior to offspring death)<br>Bereavement period (2 years following offspring death) | Marital status (Health Registry Databases) | Parents had higher rates of marital breakup after their offspring's death by suicide compared with non-bereaved parents and parents who lost their child in a MVC. |
| Eilegard & Kreicbergs, 2010 | Quantitative, cross-sectional | 561 bereaved parents whose children died from cancer<br>659 control parents | Under the age of 25 year<br>*M* (*SD)*: NA | 4 to 9 years post death<br>*M* (*SD)*: NA | Swedish national registers<br>Questions about marital status | Bereaved parents were found to be significantly more likely than controls to be married to or living with their child's other parent. |
| Kamm & Vandenberg, 2010 | Quantitative, cross-sectional | 36 couples who experienced the death of a child.<br>Circumstances of death: NA | 2 to 18 years<br>*M* (*SD)*: NA | *M* = 4 years and 10 months<br>*SD*: NA | Attitudes towards Emotional Expression Scale<br>Index of Marital Satisfaction | No significant association between attitudes about communication and marital satisfaction was found.<br>Positive attitudes about grief communication were related to marital satisfaction only for women. |
| Lyngstad, 2013 | Quantitative, longitudinal | 120,417 divorced parents in Norway from 1970 to 2003<br>4170 bereaved couples<br>Circumstances of death: NA | Under 20 years of age. More than half of these deaths took place at first six months after the child's birth; three quarters | NA | Norwegian national registers | Bereaved parents have higher divorce rates than other parents. This difference was observed across several family sizes and strengthens somewhat over time. Post-bereavement fertility did not affect the increase in divorce risk. |

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| | | | took place before the child's fifth birthday<br><br>*M* (*SD)*: NA | | | |
| Polatinsky & Esprey, 2000 | Quantitative, cross-sectional | 67 parents<br>Circumstances of death: motor vehicle accidents, suicide, homicide, illness, and unspecified. | NA | 6 months to 8 years post death<br>*M* (*SD)*: NA | Demographic data<br>Post Traumatic Growth Inventory (PTGI) | Mean scores in total PTGI total and in four of the five factor scores (excepting Spiritual Change) were higher for married than for non-married respondents (single, divorced, widowed). There was a significant difference only in the factor Appreciation of Life. |
| Rogers, 2005 | Quantitative, longitudinal | 713 bereaved and 713 non-bereaved parents<br>Circumstances of death: NA | Under the age of 1 year to older than 25 years<br><br>*M* (*SD)*: NA | *M* = 20 years post death<br><br>*SD*: NA<br><br>Data from three time points were used: Time 1 (1957) -pre-parenthood; Time 2 (1975-77) parenting children in middle childhood; and Time 3 (1992-94) - midlife parenting. | Questions developed by the author regarding marital history (number of times married, duration of current marriage, marriage to spouse of deceased child) | Having other children at the time of death was associated with higher divorce rates for bereaved women. |
| Rogers, Floyd, Seltzer, Greenberg, & Hong, | Quantitative, longitudinal | 428 parents per group (144 fathers and 284 mothers)<br><br>Control group<br>(*N* = 428; 144 | Infancy to age 34<br><br>*M (SD)* = 10.23 (10.44) | *M* = 18.05 years post death<br>(*SD* =10.57)<br><br>1992: when participants | Duncan's Socio-Economic Index | Compared to the parents of the control group, bereaved parents were more likely to have experienced marital disruption. |

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| 2008 | | men and 284 women)<br><br>Cause of death: complications of pregnancy, childbirth, and at the puerperium, congenital anomalies, illnesses, external causes of injury and poisoning, accidents and suicide. | | were 53 years old and had experienced the death of a child between 1957 and 1992. | | Having other living children in the household at the time of the death predicted less marital disruption for the bereaved parents. |
| Song, Floyd, Seltzer, Greenberg, & Hong, 2010 | Quantitative, cross-sectional | 233 bereaved couples<br>229 comparison couples<br>Circumstances of death: infant death (before the child's first birthday); after the child was one year of age: violent death; illness. | NA | *M* = 21.1 years (*SD* = 13.8) | Health Related Quality of Life measured by Health Utilities Index Mark 3 (HUI-3) | Marital closeness was a significant predictor of better health-related quality of life of bereaved couples. |
| Stroebe et al., 2013 | Quantitative, longitudinal | 219 couples whose children died by neonatal/stillbirth, illness/disorder, accidents/suicide or homicide. | *M (SD)* = 10.2 (10) | 6, 13, and 20 months post death | Dutch version of the Inventory of Complicated Grief<br>Item constructed by the authors based on the Relationship-Focused Coping Scale to assess the Partner-Oriented Self-Regulation (POSR). | One partner's POSR was associated not only with an increase in his or her own grief but also with an increase in the other partner's grief. These relationships persisted over time: self-reported and partner-reported POSR predicted later grief. |
| Vollbehr, 2011 | Quantitative, longitudinal | 27 couples who had lost a child: 21 participated in the experimental group (attended the support group) and 6 in the control group (did not attend the support group) | Experimental group *M (SD)* = 16.7 (11.1)<br><br>Control group *M (SD)* = 26.3 (16.0) | Before the program started (T1), shortly after the program has ended (T2) and at three follow-up points: 6 months, 18 months and 42 months later | Dyadic Adjustment Scale<br><br>Inventory of Traumatic Grief | No statistically significant differences were found between congruently and incongruently grieving couples on marital satisfaction, although fathers scored higher on marital satisfaction when the grief symptoms of their spouse were more intense. |

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| | | Circumstances of death: violent and non-violent. | | Experimental group: *M* = 9.2 months post death<br>*SD* = 5.9 months<br><br>Control group: *M* = 22.5 months post death<br>*SD* = 20.0 months | | Mutual support group participation did not significantly increase marital satisfaction in bereaved couples.<br><br>A significant interaction effect was found for Time x Group x Congruency on marital satisfaction; however, this effect was mainly caused by low baseline scores of congruent couples in the control group. |
| Wijngaards-de Meij et al., 2007 | Quantitative, longitudinal | 219 couples whose child died by neonatal death or stillbirth, through illness or disorder, accident, SIDS, suicide, or homicide. | Stillborn to 29 years old *M (SD)* = 10.2 (9.8) | 6, 13, and 20 months post death | Symptom Checklist-90<br>Inventory of Complicated Grief<br>Adult Attachment Scale<br>Relational Interaction Satisfaction Scale | Marital satisfaction partially mediated the association between anxious attachment and depressive symptomatology.<br><br>There was a resemblance in depressive symptoms within the couples. |
| Wijngaards-de Meij et al., 2008 | Quantitative, longitudinal | 219 couples whose children died by neonatal death or stillbirth, through illness or disorder, accident, SIDS, suicide or homicide. | Stillborn to 29 years *M (SD)* = 10.2 (9.8) | 6, 13, and 20 months post death | Dual Coping Inventory<br><br>Symptom Checklist-90<br><br>Inventory of Complicated Grief | In the interpersonal context, results indicated that for men, having a female partner high in restoration-oriented coping was related to positive psychological adjustment. |

*Note*

. NA: Not available; SIDS: Sudden infant death syndrome.

**Table 2** I Summary of qualitative studies reviewed

| Authors | Study design | Sample | Child's age *M* (*SD*) / range | Assessment time / Time post-death | Interview topics / Research Questions Data Analysis | Relevant results (for this review) |
|---|---|---|---|---|---|---|
| Barrera et al., 2009 | Qualitative, cross-sectional | 18 mothers and 13 fathers whose child died from cancer | 8 months to 20.7 years *M (SD)* = 9.2 (6.2) | 6 months post death | Open-ended questions regarding changes in daily routines, work, and relationships with friends and family following the death.<br><br>Data Analysis: grounded theory methodology. | The majority of parents described the marital relationship as a source of stability and support throughout the bereavement and adjustment process (partner-stability) and believed that they and their partners had become closer. Additionally, many parents felt that their relationship had strengthened. |
| Essakow & Miller, 2013 | Qualitative, cross-sectional | 8 married parents (3 males and 5 female) whose child died by drunk-driving fatalities, suicide and homicide | 18 to 22 years<br><br>*M* (*SD*): NA | 8 to 18 years post death<br><br>*M* (*SD*): NA | Nine questions concerning how their marriage/partnership had changed since the child's death.<br><br>Data Analysis: thematic analysis | The essence of relationship resilience included: (1) feeling safe, secure, and protected; (2) mutually understanding; and (3) ability to reintegrate and reorganize their relationship. |
| Paley, 2008 | Qualitative, cross-sectional | 5 couples | 1-14 years of age<br><br>*M* (*SD*): NA | 2 to 9 years post death<br><br>*M* (*SD*): NA | Main interview question:<br>How have you coped as a couple with the transition from having an ill child receiving palliative care to being bereaved?<br><br>Data Analysis: holistic categorical content methods. | Themes emerged: (1) the last thing you worry about are issues about us; (2) accommodating one another's coping; (3) recognizing sources of support and limitations; (4) two souls against the world; and (5) we have a common bond: lessons and legacy of the child. |
| Reilly-Smorawski, Armstrong, & Catlin, | Qualitative, cross-sectional | 54% of bereaved parents of babies who were in the NICU<br>*N* = NA | NA | 3 to 5 months post death (*M* = NA) | Categories of topics for discussion: (a) the baby's death and related events, (b) personal grief experiences, (c) couple issues including gender-related grieving | During a 12-week bereavement program, bereaved parents talked about couple issues including gender-related grieving and communication. |

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| 2002 | | Circumstances of death: NA | | | and communication, and (d) the future.<br><br>Data Analysis: NA | |
| Rellias, 2011 | Qualitative, cross-sectional | 21 parents (13 females and 8 males) whose child died from premature birth, car accident, hit-and-run car accident, SIDS, drowning, sleep apnea, drug overdose. | 6 hours to 18 years old<br><br>*M* (*SD*): NA | 3 to 15 years (*M* = 6.5 years) | General and specific questions regarding (a) pre-death couple´s relationship; (b) life style/roles and changes in these areas; (c) views concerning the death of the child; (d) post-death changes in all areas of the couple's relationship; (e) marital status before and after the child's death and reason for any changes; (f) other changes in self and as a couple; (g) support system after the death of a child; (h) grieving process; (i) perceived problems and perceived ability to solve problems; and (j) perceptions on overall change in relationship after the death of a child.<br><br>Data Analysis: grounded theory methodology. | The majority of the participants noted that their relationship with their partner was better than it was prior to the death of their child.<br><br>The aspects that influenced marital outcomes were pre-existing conflicts in the relationship; the nature and quality of togetherness and support that the couple perceived in their family and with each other; the ways that trauma and loss were processed in the family of origin and families of participants prior to the loss of their child; closeness/rigidness or openness of the couple system; and ability to share experiences with the partner and grieving as a couple. |
| Titus & Souza, 2011 | Qualitative, cross-sectional | 10 parents (8 women and a couple) whose child died from illness | 5 days to 17 years<br><br>*M* (*SD*): NA | 1 to 5 years post death<br><br>*M* (*SD*): NA | Each parent was asked to write life stories in response to four different prompts: (a) changes in family interactions before the death of the child; (b) changes in family interactions after the death of the child; (c) reactions of friends, family and others before the death of child; and (d) reactions of friends, family, and others after the death of child. | For some parents, the death of the child brought them closer together, but others talked about how the relationship was destroyed.<br>Communication also played a crucial part in the process of healing after the death, and talking about the deceased child helped families to grow and rebuild after undergoing changes following the death of the child. |

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| | | | | | Data Analysis: thematic analysis | |
| Toller & Braithwaite, 2009 | Qualitative, cross-sectional | 37 bereaved parents whose child died by stillbirth or congenital anomalies and suicide (24 women and 13 men) | 0 to 42 years (*M* = 14.3 years)<br><br>*SD*: NA | 6 months to 19 years post death (*M* = 6.75 years)<br><br>*SD*: NA | Research questions:<br>-What dialectical tensions do bereaved parents experience when communicating with their marital partner?<br>- How do bereaved parents and their marital partners communicatively manage these dialectical tensions?<br><br>Data Analysis: thematic analysis | Bereaved parents expressed a desire to grieve with their spouse to provide each other with comfort and support. At the same time, parents indicated that they sometimes needed to grieve on their own because their experience of grief was different from that of their partner. Bereaved parents experienced competing needs to be both open and closed when it came to communicating with one another about their child's death. |

*Note*. NA: Not available; NICU: Neonatal Intensive Care Unit; SIDS: Sudden infant death syndrome.

**Table 3** I Summary of mixed studies reviewed

| Authors | Study design | Sample | Child's age *M* (*SD*) / range | Assessment time / Time post-death | Relevant measures and Interview topics / Research Questions Qualitative Data Analysis (QDA) | Relevant results (for this review) |
|---|---|---|---|---|---|---|
| Arnold, Gemma, & Cushman, 2005 | Mixed, cross-sectional | 74 parents whose child died from congenital and prematurity/birth-related complications, illness and unexpected causes | 40% of the children died at the age of 1 year or younger. The mean age of children older than 1 year was 22 years<br><br>*SD*: NA | 1 year or less to 62 years post death (*M* = 24.4 years) | The quantitative and qualitative items of the questionnaire were designed specifically for this project. Quantitative items were related to the child's death and the associated grief. Qualitative items allowed respondents to describe how specific images representing the experience of grief (including an erupting volcano; a well into which one descends; a tree that has lost a limb; and a hollow or empty space) related to their experiences of loss.<br>QDA: thematic analysis; constant-comparative analysis. | Nearly half the sample (*n* = 34) reported a wide range of marital changes, including strained relationships, reduced communication with spouses/partners, and significant distancing resulting in divorce. |
| Bergstraesser, Inglin, Hornung, & Landolt, 2014 | Mixed, cross-sectional | 23 couples whose child died due to a life-limiting illness | 1 to 18 years old<br><br>Deaths by:<br>-oncology illnesses<br>Girls *M (SD)* = 13.9 (5.3)<br>Boys *M (SD)* = 7.4 (2.3)<br><br>-non-oncology illnesses<br>Boys *M (SD)* = 8.9 (5.7) | 12 months to 5 years | Interview: individual and dyadic coping of parents after the child's death.<br>SF-12 Health Survey<br>Center for Epidemiological Studies Depression Scale<br>Texas Revised Grief Inventory<br>Dyadic Coping Inventory<br>QDA: reconstructive-hermeneutical method; content analysis. | Aspects of common dyadic coping (e.g., sharing emotions or maintaining bonds to the child) helped the parents work through their grief as a couple but also individually. |

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| Dyregrov & Gjestad, 2011 | Mixed, cross-sectional | 169 women and 116 men, representing 175 couples whose child died by various causes: stillbirth (39.1%); SIDS (25.5%); other illnesses (24.5%); accidents (7.3%); and unreported or other causes (3.6%)<br><br>10 couples who lost a child from SIDS, stillbirth and accidents were interviewed in depth | The child's mean age at death was 14.4 months (*SD* = 34.4) but varied from 0 months (stillbirth and deaths on the day of birth) to 17 years | The mean time since the child's death was 73.1 months (*SD* = 66.1 months; range 2 months to 28 years). The amount of time since the death varied across causes (SIDS = 116.4 months; accidents = 94.9 months; illness = 69.4 months; and stillbirth = 47.2 months). | Questionnaire developed by the authors about the deceased child and the couple's relationship history, particularly related to intimacy and sexuality.<br>QDA: interpretative phenomenological analysis | Approximately 2/3 of the parents had resumed sexual contact within the first 3 months after their child's death. The sexual activity of approximately 1/3 of parents decreased.<br><br>Significantly fewer mothers than fathers experienced sexual pleasure, and nearly 30% of mothers reported that this had decreased since the death.<br>Only 11% of parents raised sexuality as an issue in follow-up conversations. Many parents had a few sexual problems following the child's death, but a minority, especially women, experienced major problems.<br><br>There were clear gender differences in reactions and perceptions, often agreed upon by the two genders. Men were ready to resume sexual activity much earlier than women were. Women suffered much more from grief that interfered in multiple ways in their sexual lives and they more often perceived sex as somehow being wrong. Men easily misunderstood women's need for closeness as a wish for sex. |

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| Murphy, Johnson, & Lohan, 2003 | Mixed, longitudinal´ | 138 parents who lost an adolescent or young adult child by accident, suicide or homicide | 12 to 28 years old<br><br>*M* (*SD*): NA | 4, 12, 24, and 60 months post death | Dyadic Adjustment Scale (Satisfaction subscale)<br>Others questions constructed by the authors: "How have you searched for meaning in your child's death as well as in your own life?"<br>QDA: analysis involved reading of the text by the first author, coding by response, and then counting the number of responses for each of the coded categories. | Parents who found meaning in the deaths of their children reported significantly higher marital satisfaction. |
| Murphy, Johnson, Wu, Fan, & Lohan, 2003 | Mixed, longitudinal | 173 parents whose child died by accident, suicide, homicide or undetermined | *M* = 20.7 years<br>*SD*: NA | 4, 12, 24, and 60 months post death | Dyadic Adjustment Scale (Satisfaction subscale)<br>QDA: NA | All parents reported deterioration in their marital satisfaction over time. In general, this decline was associated with communication problems, potential separation and divorce, and parenting other children. Marital satisfaction decreased significantly over time and reached its lowest levels 5 years post death. The child's cause of death did not significantly influence this outcome. |

*Note*. NA: Not available; SIDS: Sudden infant death syndrome.

### Quantitative studies

Twelve studies provided information on marital adjustment to the death of a child and its predictors, as well as the marital relationship as a predictor of individual adjustment in a quantitative format (Table 1) (Bolton et al., 2013; Eilegard & Kreicbergs, 2010; Kamm & Vandenberg, 2010; Lyngstad, 2013; Polatinsky & Esprey, 2000; Rogers, 2005; Rogers, Floyd, Seltzer, Greenberg, & Hong, 2008; Song, Floyd, Seltzer, Greenberg, & Hong, 2010; Stroebe et al., 2013; Vollbehr, 2011; Wijngaards-de-Meij et al., 2007; Wijngaards-de Meij et al., 2008). Most studies provided information on factors associated with marital adjustment (e.g., communication, having other children at the time of death, incongruent grieving), and four studies (Bolton et al., 2013; Eilegard & Kreicbergs, 2010; Lyngstad, 2013; Rogers et al., 2008) reported information on marital outcomes (divorce rates and the existence of marital disruption). Five studies focused on the marital relationship as a predictor of individual adjustment, focusing on features such as marital closeness (Song et al., 2010), marital satisfaction (Wijngaards-de Meij et al., 2007), dyadic interdependence within the couple (Stroebe et al., 2013; Wijngaards-de Meij et al., 2008) or marital status (Polatinsky & Esprey, 2000).

#### *Quality assessment*

The criteria to assess the methodological quality of the studies were based on the criteria suggested in the literature on quantitative research (Jack et al., 2010; National Collaborating Centre for Methods and Tools [NCCMT], 2008). Most studies used a large number of participants ($n \geq 100$), and most studies adequately described the measures. However, there was some heterogeneity regarding the assessment of marital variables. Some studies used a single-item measure specifically developed by the authors for the study (Rogers, 2005; Song et al., 2010). However, most studies used reliable and valid marital assessment scales (e.g., Index of Marital Satisfaction (IMS; Kamm & Vandenberg, 2010); Dyadic Adjustment Scale (DAS; Vollbehr, 2011). The use of standardized instruments is of great importance because it contributes to the validity and reliability of the measures and thus to the reported findings.

All studies included information about response and participation rates (range: 47% to 80% response rates), except for studies that used cohorts of population-based samples

(Bolton et al., 2013; Lyngstad, 2013; Rogers, 2005; Rogers et al., 2008; Song et al., 2010) and the study by Vollbehr (2011). Five of the studies that were based on population-based cohorts (Bolton et al., 2013; Lyngstad, 2013; Rogers, 2005; Rogers et al., 2008; Song et al., 2010) did not use a self-selected sample of bereaved parents. In most studies, participants were self-selected (volunteers) and were recruited from bereavement support associations (e.g., Kamm & Vandenberg, 2010; Vollbehr, 2011). This voluntary participation may potentially have led to selection bias (e.g., only parents less distressed and with greater willingness to provide insight about this theme participated), which may have compromised the representativeness of the samples. In addition, most studies did not include information about the missing data and how the authors addressed it.

It is also important to note that some studies reported overlapping samples**.** The study by Roger (2005) and Rogers et al. (2008) were part of the Wisconsin Longitudinal Study (WLS), which was an investigation of a random sample of 10,317 men and women who graduated from Wisconsin high schools in 1957. Survey data were collected in 1957, 1975, and 1992, when respondents were aged 18, 36, and 53, respectively. In these studies, the authors focused on the last assessment time. However, from the reading of the publications, it was not possible to identify the degree of overlap or the number of participants involved. Both studies were included because they had different aims. Therefore, in this review, these studies were treated as separate studies. The study by Song et al. (2010) followed the same cohort as the study of Rogers et al. (2008)12 years later (2004/06). However, contrary to Rogers et al. (2008), Song et al.'s study measured marital quality and obtained data from both members of each married couple. Similarly, the studies by Wijngaards-de Meij et al. (2007), Wijngaards-de Meij et al. (2008) and Stroebe et al. (2013) used the same sample. However, because the aims of the studies differed, these were also treated independently.

Finally, in the studies that used control groups, efforts were made to ensure that bereaved parents were similar to the comparison group with regard to background characteristics (Bolton et al., 2013; Eilegard & Kreicbergs, 2010; Rogers, 2005; Rogers et al., 2008; Song et al., 2010; Vollbehr, 2011). In the study of Lyngstad (2013), although no matched groups were used, the author conducted these analyses by comparing bereaved couples and non-

bereaved couples with a similar family composition and the background characteristics were included as control variables.

### Qualitative studies

Seven qualitative studies provided data on marital outcomes after the death of a child and/or on the marital relationship as a predictor of individual adjustment (Table 2) (Barrera et al., 2009; Essakow & Miller, 2013; Paley, 2008; Rellias, 2011; Reilly-Smorawski, Armstrong, & Catlin, 2002; Titus & Souza, 2011; Toller & Braithwaite, 2009). The focus of these studies was mainly the effect of the death of a child on the marriage, with most studies examining changes in the relationship (e.g., Barrera et al., 2009) or the factors that influence marital outcomes (e.g., Rellias, 2011). Barrera et al. (2009) and Essakow and Miller (2013) also addressed the influence of the marital relationship on individual adjustment. The study by Toller and Braithwaite (2009) focused on the contradictions of marital interactions experienced by bereaved parents within the dyad as well as how bereaved parents negotiated these contradictions.

#### *Quality assessment*

The accuracy of the publications included in this review was critically evaluated using criteria for reporting qualitative research (Tong, Sainsbury, & Craig, 2007; Kuper, Lorelei, & Levinson, 2008). The seven reviewed studies had clearly described aims, and their proposed research questions were suitable to qualitative methods. Details about sampling, data collection and analysis procedures were clearly provided in most studies. The exceptions were the study of Reilly-Smorawski et al. (2002), who did not provide information about data collection and analysis procedures; and the study by Titus and Souza (2001), in which the authors did not identify grounding in any particular paradigm or theory and did not provide information about the reliability and validity of the results. In five studies, the authors made efforts to ensure the validity and reliability of the findings, for example, by rechecking the analysis in a number of different ways, such as member-checking (Barrera et al., 2009; Essakow & Miller, 2013; Paley, 2008; Rellias, 2011; Toller & Braithwaite, 2009). Three studies adequately addressed reflexivity, which refers to recognition of the influence a researcher brings to the research process (Essakow & Miller, 2013; Rellias, 2001; Titus & Souza, 2011). Finally, in each of these four studies, the main

findings were clearly presented, and all of the studies provided conclusions that synthesized the results and limitations. Suggestions for further research and clinical practice were also identified in all studies, particularly in the study by Rellias (2011).

### Studies using mixed methods

Five studies addressed the couple's relationship after the death of a child using mixed methods (Table 3) (Arnold, Gemma, & Cushman, 2005; Bergstraesser, Inglin, Hornung, & Landolt, 2014; Dyregrov & Gjestad, 2011; Murphy, Johnson, & Lohan, 2003; Murphy, Johnson, Wu, Fan, & Lohan, 2003)**.** Arnold et al. (2005) provided information on marital outcomes (marital strain), and Dyregrov and Gjestad (2011) focused specifically on the effects of the death of a child on the parents' sexual relationship. Murphy, Johnson, and Wu et al. (2003) provided information regarding marital outcomes, but, similar to the study by Murphy, Johnson and Lohan (2003), they focused on associated variables, such as finding meaning, communication problems, potential separation and divorce, and parenting other children. Bergstraesser et al. (2014) focused on the role of dyadic coping (efforts by one or both partners to manage stress) in the grief process of parents, as a couple as well as on an individual level.

#### *Quality assessment*

Two studies provided information about the procedures used to handle the missing data (Murphy, Johnson, & Lohan, 2003; Murphy, Johnson, Wu, et al., 2003)**.** All studies provided information about the limitations and clinical implications of the studies, and Arnold et al. (2005) presented a topic solely dedicated to the clinical implications.

Regarding the quantitative measures that have been used, the studies by Arnold et al. (2005) and Dyregrov and Gjestad (2011) used measures specifically developed by the authors, but the reliability of the instruments was not tested. In the other studies, quantitative measures seemed appropriate. However, it is worth mentioning that in two of these studies, the main outcome measure was marital satisfaction (using only a subscale of the DAS), which disregarded other relevant aspects of the marital relationship (e.g., dyadic consensus, affectional expression, dyadic cohesion) (Murphy, Johnson, & Lohan, 2003; Murphy, Johnson, Wu, et al., 2003). Additionally, in most studies, the qualitative data

served as explanatory purpose to enrich the quantitative data. In most studies the participants were asked to provide (hand-written) details after answering a specific item in the questionnaire. Dyregrov and Gjestad (2011) conducted a semi-structured interview, and in this study, qualitative and quantitative data were used to confirm or cross-validate the study findings. Moreover, most studies used thematic or content analysis to handle the qualitative data. In the study by Murphy, Johnson, and Wu et al. (2003), although there was reference to the use of qualitative data, no specific information in relation to data collection and analysis was provided. In addition, none of the studies used statistical measures of inter-rater agreement.

Four studies included information about response and participation rates (Bergstraesser et al., 2014: 64% response rate; Dyregrov & Gjestad, 2011: 33% response rate; Murphy, Johnson, & Lohan, 2003 and Murphy, Johnson, and Wu et al., 2003: 62% response rate). With the exception of the study by Arnold et al. (2005), all studies included information about inclusion criteria. Regarding the recruitment of participants, two studies may have encountered selection bias because the parents were recruited from bereavement support associations (Dyregrov & Gjestad, 2011) or from specific groups (e.g., Arnold et al., 2005: nurses who graduated from one school of nursing; Bergstraesser et al., 2014: pediatric hospital). The sample in the two longitudinal studies was population-based, and the testing for selection bias was non-significant (Murphy, Johnson, & Lohan, 2003; Murphy, Johnson, Wu, et al., 2003).

**Ethical considerations in the reviewed studies**

Some of the studies included in this systematic review considered ethical aspects of conducting a study with a vulnerable population such as bereaved parents. Five studies mentioned the approval of the study by ethical committees (Bergstraesser et al., 2014; Dyregrov & Gjestad, 2011; Eilegard & Kreicbergs, 2010; Wijngaards-de Meij et al., 2008; Stroebe et al., 2013), and 10 studies provided information about the use of voluntary consent, ensuring the anonymity and confidentiality of the research (Barrera et al., 2009; Bergstraesser et al., 2014; Dyregrov & Gjestad, 2011; Essakow & Miller, 2013; Paley, 2008; Rellias, 2011; Stroebe et al., 2013; Toller & Braithwaite, 2009; Vollbehr, 2011; Wijngaards-de Meij et al., 2008). Additionally, some authors defined inclusion criteria with regard to

the time post-loss given the sensitivity of the subject and the fact that the time immediately after the event may be too recent to be addressed in a research setting (Barrera et al., 2009; Bergstraesser et al., 2014; Murphy, Johnson, & Lohan, 2003; Murphy, Johnson, Wu, et al., 2003; Paley, 2008; Rellias, 2011; Stroebe et al., 2013; Vollbehr, 2011; Wijngaards-de Meij et al., 2007; Wijngaards-de Meij et al., 2008).

Regarding the studies' procedures, in 10 studies, the first contact between the participants and the researchers was by letter, which contained detailed information about the study (Arnold et al., 2005; Barrera et al., 2009; Bergstraesser et al., 2014; Dyregrov & Gjestad, 2011; Eilegard & Kreicbergs, 2010; Paley, 2008; Rellias, 2011; Titus & Souza, 2011; Vollbehr, 2011; Wijngaards-de Meij et al., 2008). In six studies, the authors conducted the interviews at places that were most convenient to the participants, which were usually the parents' homes (Barrera et al., 2009; Bergstraesser et al., 2014; Dyregrov & Gjestad, 2011; Paley, 2008; Rellias, 2011; Titus & Souza, 2011). Finally, in three studies (Bergstraesser et al., 2014; Paley, 2008; Rellias, 2011), information was provided on how to access resources such as counseling services.

## Data organization synthesis

As noted, the current systematic review is organized into two major themes: (1) the marital relationship as an outcome, focusing on the effects of the death of a child on the couple's relationship as well as the situational and parental dyadic and individual variables that may impact the relationship and (2) the marital relationship as a predictor, focusing on information about the influence of the marital relationship on the individual adjustment. For each theme, we will provide a summary of the relevant findings of the studies reviewed (Tables 1, 2 and 3). Additional studies will be discussed to highlight some aspects of research that should be considered when interpreting the results.

## Core effects of the death of a child on the couple's relationship

### Detrimental vs. cohesive effects

There is some agreement that the death of a child may affect the marital relationship, although the exact direction of this association is less clear. Nine studies assessed the link

between the death of a child and the marital relationship. All studies provided some degree of support between these two variables, although there were some differences in the direction of this association. Parents may experience marital disagreement (Rogers et al., 2008) and diminished marital satisfaction over time (Murphy, Johnson, Wu, et al., 2003). In some studies, parents reported a strained relationship, reduced communication with spouses/partners and significant distancing that, ultimately, can result in divorce (Arnold et al., 2005). In fact, three population based studies with a large-scale data found that, in comparison to non-bereaved parents, bereaved parents had higher divorce rates (Bolton et al., 2013; Lyngstad, 2013; Rogers et al., 2008). Despite these findings suggesting that the death of a child can disrupt the marital relationship, there was also evidence for resiliency in couples, especially according to the findings of qualitative studies. These studies concluded that marriages survive the death of a child. This loss and grief may even bring couples closer and strengthen their relationship, with the relationship acting as a source of support in these contexts (Barrera et al., 2009; Bergstraesser et al., 2014; Essakow & Miller, 2013; Paley, 2008; Rellias, 2011; Titus & Souza, 2011). Similarly, Eilegård & Kreicbergs (2010) found that bereaved parents were found to be significantly more likely than controls to be married to or living with their child's other parent, which challenges the idea that bereavement is associated with an elevated risk of divorce.

Regarding sexuality, Paley (2008) reported bereaved parents' difficulty in being sexually intimate with each other. However, Dyregrov and Gjestad (2011) found that despite reports of diminished sexual activity, most parents reported the same level of sexual activity within three months after the offspring's death as before their loss. With regard to this outcome, the authors identified significant sex differences. Men were ready to resume sexual activity much earlier than women were. The authors argued that these differences may be an effect of greater grief intensity among women, women's negative perceptions of their body and sex, the guilt associated with feelings of desire or pleasure and difficult images interfering with sex.

**Marital (mal)adaptive outcomes: Core influential variables**

Research in this field has identified a number of variables that may affect marital outcomes following the death of a child, including situational factors related to the child and the

circumstances of the death (cause and type of death, child's age at the time of death), dyad-level factors related to the parents relationship/family structure (surviving children, pre-death characteristics of the relationship, communication, and incongruent grieving), and individual-level factors related to the parents' individual characteristics/variables (family of origin processing of trauma, social support, religious affiliation, and finding meaning).

### Situational factors

*Cause and type of death*

Studies have found that the impact of bereavement on marital functioning may differ depending on the circumstances surrounding the offspring's death. Of the studies of this review, three studies that used quantitative data addressed the association between the cause of death and marital outcomes, but only two found significant associations between these variables. Song et al. (2010) reported an effect on marital closeness among parents who experienced infant death (illnesses or accidents that occurred before the child's first birthday) but not among those whose offspring died from illness or violence (after the child was one year of age). According to these authors, infant deaths most likely occurred at an early stage of the family life cycle and thus at an early stage of active parenting, when there is an increased need to work together as parents. In the study by Bolton et al. (2013), suicide-bereaved parents were more likely than parents whose offspring died in a motor vehicle crash to experience marital breakup in the 2 years after the death compared with the 2 years prior to the loss. However, in the study by Murphy, Johnson, and Wu et al. (2003), a child's death by suicide did not contribute to lower levels of marital satisfaction in comparison to parents who were bereaved by accidents and homicide.

*Child's age at the time of death*

Although the death of a child can result in intense and long-lasting grief, there seem to be additional complexities when adult offspring die (Wijngaards-de Meij et al., 2005). Of the studies identified in this review, only one study focused on the association between the offspring's age at the time of death and marital outcomes. Rogers (2005) found that bereaved parents of adult offspring (aged 25 or older) were more likely to be divorced

than non-bereaved parents. One of the explanations advanced for this finding related to the age of the parents. Younger bereaved parents may activate more effective coping strategies, which decrease their risk of negative psychological sequels and marital strain secondary to the loss of a child. Conversely, as Rogers et al. (2008) stated, deaths involving older children could be more stressful for marital relationships than infant deaths, particularly because attachment bonds would be expected to be stronger.

### Dyad-level factors

*Surviving children*

The three studies that focused on the association between having other children and marital outcomes presented divergent findings. Rogers et al. (2008) reported that parents were less likely to experience marital disruption when they had other living children at the time of the death. Having other children can provide bereaved parents with a continued sense of purpose in life (Rogers et al., 2008; Wijngaards-de Meij et al., 2005), which can explain the protective role of this variable. In contrast, Rogers (2005) found that, contrary to expectations, having other children at the time of the death was associated with higher divorce rates, particularly for mothers. The author argued that bereaved women with larger households may feel overburdened. These women have more children to care for, and after the death of a child, they may not have the time or energy required to work through their own grief or to resolve marital problems. Similarly, in the study by Murphy, Johnson, and Wu et al. (2003), the deterioration in marital satisfaction reported by parents was associated with parenting other children.

*Pre-death characteristics of the relationship*

In previous research, one of the main reasons given for divorce among parents who lost a child was the quality of the marital relationship before the child's death (Klass, 1986-87). In recent years, three studies have also reported this association. In the study by Rellias (2001), distancing in the marital relationship appeared to occur mostly in couples and individuals who described pre-existing conflicts in their relationship, which became more pronounced after the death of the child.

Similarly, in the specific context of a child's death from cancer, Barrera et al. (2009) found that parents who reported more instability in their relationship after the loss of their child were also those who had already experienced deterioration in their relationship and communication during the illness of their child. In contrast, the parents whose relationship improved were those who shared the care demands of their sick child prior to the loss. Similarly, in the study of Bergstraesser et al. (2014), the couples who reported a well-functioning relationship tended to show better coping strategies during bereavement than those who had already had difficulties in their partnership prior to the death of their child.

*Communication*

Given that spouses are often each other's main source of support and comfort, communication between spouses about the child's death is especially important (Kamm & Vandenberg, 2001). Eight studies focused on the importance of communication for marital adjustment. Flexibility, openness and good communication have been identified as key factors in sustaining functional and healthy marriages during bereavement (Paley, 2008; Rellias, 2001; Song et al., 2010; Titus & Souza, 2011; Toller & Braithwaite, 2009). The ability to have positive open discussions that include shared grieving, to be appropriately supportive and available to each other by providing a sympathetic and uncritical audience for grief and to use each other's strengths positively influenced couples' relationships (Essakow & Miller, 2013; Paley, 2008; Rellias, 2011). Similarly, disagreements in the relationship have been attributed to ongoing differences and difficulties in communication (Barrera et al., 2009; Murphy, Johnson, Wu, et al., 2003; Toller & Braithwaite, 2009).

Two studies highlighted the dynamic and complex nature of communication within the couple in the bereavement process (Kamm & Vanderberg, 2001; Toller & Braithwaite, 2009). Kamm and Vanderberg (2001) discussed how grief communication helps married couples endure the grieving process together. Positive attitudes about open communication were related to more severe grief reactions early in bereavement but to less severe grief reactions later. However, these authors did not mention what they considered shorter or longer times since the death. In addition, these authors found evidence of relative agreement among couples because there were significant correlations in couples' attitudes about communication. More recently, Toller and Braithwaite (2009)

identified contradictions between bereaved partners, including feeling the need to grieve for their loss individually or as a couple and being open or closed when talking with the partner about the child's death. Because this event is profoundly painful, parents indicated that they and their spouses needed to communicate about their child's death to vent and to share emotions. At the same time, the pain was often so pronounced that parents needed to be closed with each other and grieve apart, to give each other space (Toller & Braithwaite, 2009). Therefore, discreet silence about one's loss experience can be considered an adaptive response to grief. On a similar note, Bergstraesser et al. (2014) reported that the parents who found alternatives for their need to talk, such as a friend, and accepted their partner's way of grieving, did not seem to suffer more than those whose grieving expression was more restrictedly enclosed within the couple.

*Incongruent grieving*

After the death of a child, mothers and fathers often grieve differently, expressing and coping with the loss in different ways (for a review see Wing, Burge-Calloway, Clance, & Armistead, 2001). As a result, parents may be confused by their spouse's response to this event. Theoretically, this dissimilarity may create distance in the marital relationship and may foster the misunderstanding that the other parent is not grieving appropriately (Rogers, 2005). In the study by Reilly-Smorawski et al. (2002), during a 12-week bereavement program, parents talked about couple's issues, including gender-related grieving. The authors noted clear misunderstandings and lack of communication in a number of couples, particularly in relation to the husband's grieving, and reported that struggles between the members of the couple appeared at times to be related to differing, individual experiences of grief. Conversely, Vollbehr (2011) did not find significant differences between congruently and incongruently grieving couples in marital satisfaction. However, fathers scored higher on marital satisfaction when the grief symptoms of their spouses were more intense. It seems, however, that partners do not necessarily need to grieve and cope in the same way. Two qualitative studies found that parents were able to accept and embrace their dissimilarity in grieving and to accommodate one another's coping needs. When this happened, parents were able to connect and share their loss together as a couple, and their relationship grew stronger (Paley, 2008; Toller & Braithwaite, 2009). Essakow and Miller (2013) stated that parents'

mutual understanding that they may have different needs and responses at times was essential to the survival of the relationship.

### Individual-level variables

*Family of origin processing of trauma*

Only one qualitative study explored and identified a link between this variable and the parents' relationship after the loss of a child. Rellias (2001) found that the ways that trauma and loss were processed in the family of origin and the families of participants prior to the loss of the child was related to how the participants coped with this event as a couple. All of the study participants stated that their families did not prepare them to handle traumatic life events or grief. As they noted, this influenced the ways in which they handled traumatic life events and grief in their relationship.

*Social support*

There has been increasing awareness of the importance of social support to the parents' grief process after the loss of a child (e.g., Laakso & Paunonen-Ilmonen, 2002). However, only two studies (one quantitative and one qualitative) explored the effect of social support on marital outcomes after the loss of a child (Rogers, 2005; Toller & Braithwaite, 2009). Rogers (2005) found that parents who received social support were more likely to be married. Toller and Braithwaite (2009) reported that because it was sometimes painful to talk with the spouse about their child's death, parents chose to talk to friends or family instead. By being open with others, parents met their own need to talk about the death and, at the same time, honored their spouse's need to avoid talking about the death.

*Religion/Religious affiliation*

Few studies have examined the association between religion and the individual adjustment of parents bereaved by the loss of a child (Ungureanu & Sandberg, 2010). This is also true with regard to marital adjustment. Of the studies identified, only two (Rogers, 2005; Rogers et al., 2008) addressed this association. Both studies showed that religious participation was a significant predictor of a lower likelihood of marital disruption, but the study by Rogers (2005) only found this association to be true for men. The authors argued that the potentially increased social support obtained through religious participation may

help to keep marriages intact. In addition, if spouses participate in religious activities together and perceive these as a way to connect with each other, this practice may strengthen the marital bond. Finally, in this context, it is plausible that religious individuals are less likely to consider divorce a viable option, particularly if divorce is not supported by their religion.

*Finding meaning*

The ability to make sense of shattered assumptions about the world after a traumatic event is crucial in rebuilding the "predictability and order" of life (Neimeyer, 2001). In fact, every aspect of life following the death of a child is infused with meaning reconstruction, and marital features are no exception. Accordingly, as Rosenblatt (2000) argued, grieving parents may question the meaning of their marital relationship. Only the study of Murphy, Johnson and Lohan (2003) examined the association between finding meaning and marital adjustment. These authors reported that parents who found meaning after the death of their offspring reported higher marital satisfaction. The authors did not offer any explanations for this finding because a large proportion of respondents did not answer this question, resulting in a lack of information about parents' search for meaning.

**Marital relationship as a predictor of parents' individual adjustment**

In addition to addressing the effects of the death of a child on the couple's relationship, we also aimed to examine how the characteristics of the marital relationship can function as a predictor of parents' individual adjustment. In this review, relationship characteristics such as marital satisfaction and closeness (marital quality) and interdependence within the couple emerged as variables that influence parents' individual adjustment.

**Marital quality, support and dyadic coping in bereavement.**

Given that most marriages remain intact after the death of a child (Schwab, 1998), the ability to maintain marital quality over time may be a key to well-being for most parents. However, there has been relatively little research on parental bereavement that has specifically examined the role of marital relationship in recovery from grief. Although one study in our review did not find any association between levels of grief and marital status (Rogers, 2005), six studies (two qualitative, three quantitative, one mixed) emphasized the

marital relationship as a source of stability and support throughout the bereavement and individual adjustment process to the loss of a child. The studies by Barrera et al. (2009) and Essakow and Miller (2013) reported that the relationship between bereaved parents served as a safe haven; feeling secure, and protected in the relationship helped parents to survive and endure the grief after the loss of their child. Polatinsky and Esprey (2000) found a trend for married respondents to have higher posttraumatic growth and two other quantitative studies examined the effect of marital closeness and satisfaction on parental individual adjustment after the loss of a child. Song et al. (2010) addressed the mechanism through which marital closeness mediated the association between bereavement and health-related quality of life (HRQoL). However, in this study, marital closeness did not mediate the negative effects of violent child death on the parents' HRQoL for this subgroup. Nevertheless, marital closeness was found to be a significant predictor of HRQoL. Bereaved parents who indicated greater marital closeness reported a better HRQoL score compared to bereaved parents who had lower levels of marital closeness. Wijngaards-de Meij et al. (2007) also used a mediation model to assess whether the association between attachment style and depression was mediated by marital satisfaction. The results indicated that marital satisfaction partially mediated the association between anxious attachment (i.e., the degree to which a person worries that a partner will not be available in times of need) and depressive symptoms. When a partner is anxiously attached, this is associated with lower marital satisfaction, which, in turn, is associated with more depressive symptoms. The authors suggest that it is likely that an anxiously attached parent has high expectations regarding support and caregiving from his or her partner. These expectations are likely not met by the partner because he/she is similarly distressed.

Finally, Bergstraesser et al. (2014) found that joint dyadic coping (coping together and activating shared resources) helped the parents work through their grief as a couple but also individually. Aspects of joint dyadic coping such as the sharing of emotions and the maintenance of continuing bonds to the child emerged as particularly relevant. The later consisted on the performance of rituals, such as grave tending and celebrating the deceased child's birthday, which were shared as their parental "togetherness".

### Dyadic interdependence regarding grief

A previous literature review showed that noticing the spouse's response to the loss may not only activate similar reactions in an individual but may also generate distress due to the perceived inability to prevent the partner's suffering (Schwab, 1992). Thus, following the death of a child, adjustment is not only a matter of individual grief; it is also a product of relational processes of mourning (Walsh & McGoldrick, 2004) and encompasses intra-personal and interpersonal processes. This interpersonal context of grieving suggests that fathers and mothers are confronted with the death of their child both independently and as an interdependent dyad. This perspective was addressed in two studies (Stroebe et al., 2013; Wijngaards-de Meij et al., 2008).

Wijngaards-de Meij et al. (2008) examined the association between the coping strategies of bereaved couples, focusing on the deceased child (loss orientation) or on secondary stressors resulting from the loss (restoration orientation), and parental adjustment (depression and grief response). For fathers, having a spouse who had high restoration-oriented coping was related to less depression and a less severe grief response. For mothers, however, the spouse's coping was unrelated to their adjustment, perhaps because mothers used more loss-oriented coping strategies (thoughts and feelings focused on the relation-ship between the mother and the deceased child), for which there is no need to involve the spouse. Stroebe et al. (2013) examined how partners influence each other's grieving process. The authors focused on a phenomenon called partner-oriented selfregulation (POSR), which they defined as the avoidance of talking about the loss and remaining strong in the partner's presence with the intention to protect the partner. It was found that POSR can increase both partners' grief responses. Paradoxically, the wish to protect the partner may backfire and interfere with a parent's coping with his/her child's death, thus stimulating an interpersonal cycle of dysfunction in the relationship and grieving processes.

## Discussion

This systematic review aimed to collect and synthesize existing empirical literature on how the death of a child impacts couples' relationships (marital relationship as an outcome) and how the marital relationship influences parents' individual adjustment (marital

relationship as a predictor). Despite the wide range of literature on parental bereavement, only a limited number of studies have focused on these two perspectives.

The first part of this review aimed to present current knowledge on how couples' relationships are affected by the death of a child. A former literature review on the theme (Schwab, 1998) advocated for the dispelling of the myth that the death of a child precipitates a severe marital crisis and/or divorce. In light of the empirical evidence provided by large-scale quantitative studies, we can conclude that the death of a child can in fact lead to marital distress and divorce, and therefore, must be regarded as a serious risk factor for marital dissolution. However, despite the struggles that couples go through, there is also evidence (particularly on the qualitative studies) suggesting that some couples' relationships can be enhanced by their shared ordeal, contributing to greater cohesion and support within the relationship.

In addition, several variables – situational, dyadic and individual – that influence marital adjustment to the loss of a child were identified, and conclusions can be drawn regarding risk and protective factors. Parents whose child died from suicide (Bolton et al., 2013) and was an adult (Rogers, 2005) and parents who experienced pre-death relationship instability and conflicts (Barrera et al., 2009; Rellias, 2001), communication difficulties (Barrera et al., 2009; Murphy, Johnson, Wu, et al., 2003; Toller & Braithwaite, 2009) and lack of preparedness for dealing with trauma (Rellias, 2001) may be at higher risk for marital difficulties. In contrast, infant death (Song et al., 2010), good communication and openness in the relationship (Essakow & Miller, 2013; Rellias, 2001; Song et al., 2010; Titus & Souza, 2011; Toller & Braithwaite, 2009), understanding and acceptance of incongruent grieving (Essakow & Miller, 2013; Toller & Braithwaite, 2009), effective social support (Rogers, 2005; Toller & Braithwaite, 2009) and finding meaning (Murphy, Johnson, & Lohan, 2003) emerged as protective factors for relationship problems. Mixed findings were found regarding two variables: the presence of other children and incongruent grieving. Regarding the presence of other children, although some studies have found that the presence of and focus on other children in the family at the time of the death can function as a protective factor for marital disruption (Rogers et al., 2008), other studies have found that having other children is associated with marital difficulties (Murphy, Johnson, Wu, et al., 2003; Rogers, 2005). Regarding incongruent grieving, Reilly-Smorawski et al. (2002)

reported that struggles between the members of a couple appeared to be related to differing individual experiences of grief, whereas Vollbehr (2011) did not find significant differences between congruently and incongruently grieving couples in marital satisfaction. These particular findings challenge the incongruity hypothesis presented by Oliver (1999) to explain why marital problems can develop when a child dies.

In the second part of this review, the focus was on the marital relationship as a predictor of parents' individual adjustment, which has been however subject of lesser empirical attention. Marital closeness was found to be a significant predictor of HRQoL (Song et al., 2010), and joint dyadic coping (sharing of emotions and maintenance of continuing bonds) helped parents work through their grief both individually and as a couple (Bergstraesser et al., 2014). Polatinsky and Esprey (2000) found a trend for married respondents to have higher posttraumatic growth and Wijngaards-de Meij et al. (2007) found that marital satisfaction partially mediated the association between anxious attachment and depressive symptoms. Finally, in a number of studies conducted in The Netherlands, Wijngaards-de Meij et al. (2008) and Stroebe et al. (2013) underlined how parents, as an interdependent dyad, affect each other's individual adjustment. These findings highlight the potential protective role of the marital relationship after the loss of a child and the interdependency within the couple.

**Strengths and limitations of the studies reviewed**

In the literature review conducted by Oliver (1999) on the effects of the death of a child on marital relationships, the author noted some of the shortcomings of most of the studies reviewed, including small sample sizes, selection bias, attrition rate, the lack of a control group and an exclusive focus on mothers. In addition to these methodological considerations, Schwab (1998) stated that future studies should aim to control variables such as parents' life cycle stages, the type and circumstances of the death, the quality of the marital relationship prior to the offspring's death, and concurrent stressors to obtain a more accurate picture of marital discord and dissolution following the death of a child. Studies in the last 14 years have attempted to manage some of these limitations, but also to use more sophisticated methods of analysis. Further advances on methodological and

statistical approaches, in order to obtain more robust findings, will be however discussed in the section "Directions for future research".

Regarding sample size, more recent quantitative studies have included increasingly larger samples. Of note, the study of Lyngstad (2013) is particularly relevant, since it used a high-quality large-scale representative data source, which provides data virtually free of sample attrition and self-reporting bias. Nevertheless, sample sizes may be smaller than desired because of the difficulty in recruiting parents to participate in these studies. The loss of a child is such a traumatic event that parents may refrain from completing questionnaires or participating in interviews on such a disturbing theme. Also, it may be that individuals who are more distressed do not participate in these studies (Dyregrov & Gjestad, 2011), which limits the generalizability of the results.

Concerning the samples' composition, given the sharing of the circumstances of death (both parents lost a child), it is important to include couples in the research. Parents within a couple lose the same child and have more in common than do two independent parents who lose different children. Given the similarities and interdependence within a couple, it is of major importance to recognize the interpersonal context in which grief occurs and, therefore, the importance of using the couple as the unit of analysis. In this review, we have noticed a growing effort in this direction (9 out of 20 studies included couples). In addition, as shown in the diagram of the study selection process, only three studies were excluded for including only mothers. We can therefore conclude that recent studies are beginning to consider the father's perspective. This constitutes a remarkable difference and an advantage in relation to previous studies that strengthens the applicability of the findings. However, particularly in studies that did not rely on couples, the number of participating fathers was substantially lower than the number of mothers (e.g., Titus & Souza, 2011).

Regarding the study design, the number of longitudinal studies (9 out of 20) is also noteworthy. Longitudinal prospective studies may produce more reliable data and may capture changes in behaviors and processes over time. It is also important to note that most of these studies had a quantitative design. The longitudinal studies specifically addressed the immediate (short-term) individual/marital adjustment of grieving parents

given that most of them adopted 20 months post-death as the last assessment time (e.g., Wijngaards-de-Meij et al., 2007; Wijngaards-de Meij et al., 2008). Nevertheless, as stated by Murphy, Johnson, and Wu et al. (2003), parents reported thinking about the death of their child daily 3 and 4 years after the event. Therefore, it is important that studies include not only recent deaths but also losses that occurred long in the past.

Several studies presented particular limitations, some of which were similar to those stated by Oliver (1999). These limitations should be considered when interpreting the studies' findings. In relation to the sample selection, several studies recruited parents through grief organizations, support groups, or clinical settings and/or the sample was self-selected (volunteer sampling). In addition, and regardless of methodological design, most studies' samples were heterogeneous, mainly in relation to the age of the child (from infancy to adulthood), the time since death and causes of death. This limitation can be attributed to the small size of these subgroups. If these subgroups were considered, the statistical power of the analyses would be reduced (e.g., Murphy, Johnson, & Wu et al., 2003).

Most studies were conducted in developed countries and mainly with Caucasians. In addition, although 20 studies were included in this systematic review, the studies by Rogers (2005) and Rogers et al. (2008) reported overlap of the samples, as did the studies by Wijngaards-de Meij et al. (2007), Wijngaards-de Meij et al. (2008) and Stroebe et al. (2013). Therefore, the diversity of contexts included in this review might be even more limited. The lack of cultural and ethnic diversity also limits the generalization of the results and does not allow for an examination of the influence of culture on the grieving process. In grief research, future efforts should include participants from diverse cultural and ethnic backgrounds. As Rosenblatt (2013) noted, by examining how loss is understood and experienced in diverse cultures, we may be able to develop theories and prescriptions for dealing with loss that are sensitive to different cultural realities.

In the quantitative and mixed studies, there was also an inconsistency in the measures that were used, and some studies used unstandardized questionnaires and single-item measures. The majority of studies did not use a control group in their design. However, this approach may be justified by the primary purpose of these studies and by the fact that some variables cannot be compared. Indeed, most studies did not aim to examine

whether these parents were more or less well-adjusted than normative samples; the main focus was on how these parents were affected by the death of their child and which variables influenced their adjustment (e.g., Barrera et al., 2009; Kamm & Vandenberg, 2001; Murphy, Johnson, Wu, et al., 2003; Rellias, 2001; Rogers et al., 2008).

**Limitations and strengths of the present review**

Some aspects related to the methodology of conducting systematic reviews should be acknowledged. The systematic search was limited to publications published in English, which may have introduced publication bias. English language journals are predominantly published in developed countries, and this may limit exposure to other contexts. However, we believe that the use of broad terms in our searches, cross-referencing, searches by author name, and a hand search in journals of interest produced a thorough systematic review. Furthermore, to provide a comprehensive review of the existing literature, a broad range of study types (including qualitative) were considered relevant for the analysis. Conversely, the diversity of measurements and study types included (e.g., qualitative; mixed), did not allow us to conduct a meta-analyses in this systematic review.

Besides collecting information on the issue of central focus (marital outcomes after the loss of a child and the marital relationship as a predictor of individual adjustment), relevant information regarding demographics, study design and sample selection was also included. As previously stated, in addition to challenging some of the results reported in the literature reviews of Oliver (1999) and Schwab (1998), this systematic review also thrived by addressing the multidirectional relationship between grief (and individual adjustment) and the marital relationship, considering both what influences and what is influenced by the marital relationship. Finally, besides including useful implications for therapy, to the best of our knowledge, this work was the first attempt to systematically assess and summarize the methodological aspects of recent studies in this area. Some useful insights for future studies are provided below.

**Directions for future research**

Considering the limitations mentioned above, some directions for future research emerge. Research studies have traditionally focused on the personal effects of a traumatic event on

individual family members, whereas less attention has been given to systemic outcomes. By understanding the effects of a traumatic event such as the death of a child on each member of a couple individually and as a dyad, important information about why couples' relationships grow stronger or weaken may be gained. Therefore, studies should continue to focus on the variables that may influence marital adjustment. For example, Toller and Braithwaite (2009) found that parents' acceptance of differences in grieving increased their cohesion. This ability to accept dissimilarities may be influenced by pre-death relationship characteristics. However, the role of this variable has been explored only superficially. Longitudinal studies that include data collection during pre-loss and post-loss time periods could be particularly important. However, the pre-loss data would have to be confined to long-term disease situations, where the parents' relationship characteristics could only be gathered at the diagnosis and disease phases. Also, although the retrospectively gathering of data related to pre-death relationship characteristics can be seen as a limitation, this still represents the guide that parents have of their marital reality before the death and therefore it is relevant on its own. Regarding the post-loss periods, it will be important to avoid data collection immediately after the dead of a child and periods particularly sensitive (e.g., 12 months after the event).

In the present review, some relevant variables, such as the child's age at the time of death, the family of origin's processing of trauma, and finding meaning, were mentioned in only one study. These aspects require further examination to corroborate the findings of the reviewed studies. Also, the direction of the association between the existence of surviving children and marital adjustment remains unclear. It is plausible that the influence of having other children might be dependent on the quality of the parent-child relationship. In addition, how does the marital relationship influence the parent-surviving child relationship? Given the limited evidence on this question the roles of different family relationships during the parental grieving process may also be the focus of future studies. To achieve this, it would be relevant to collect data from both informants, that is, to take into account the perception of both the parents and the surviving children.

Research also seems to have neglected not only the impact of the death of a child on the couple's relationship but also the potential role of marital characteristics in coping with bereavement. Future research on the role of marital quality in individual adjustment is

needed. Efficacy studies should observe the contribution of interventions focused on the marital relationship. Moreover, previous research has focused on the importance of considering interactive processes when studying bereaved parents (Stroebe, Schut, & Finkenauer, 2013). These authors have particularly highlighted the relevance of inter-dependence theory, which recognizes mutual influences between partners. This directionality may be examined by adhering to proper statistical analyses, such as the Actor-Partner Interaction Model (Cook & Kenny, 2005), which enables the examination of both between- and within-person processes. Future studies should therefore take into account the actor and partner effects and should assess the characteristics and outcomes of both members of the dyad. This approach would enhance understanding of how one partner's characteristics (e.g., coping, perceptions of the partner's responses to loss, attachment representations) affect his/her partner's characteristics and outcomes. Another feasible approach was provided by Stroebe et al. (2013), who analyzed the associations between partners' ratings of their own POSR and grief, and their partner's POSR and grief. By acknowledging the plausibility of the reverse relation, these authors conducted multilevel regression analyses with grief as the independent variable and POSR and concern as dependent variables. This approach provides therefore a valuable example on how to examine bidirectional effects.

Given the theoretically meaningfulness of bidirectional effects, some important research questions should be considered in future research: what happens in couples when one member of the couple shows low distress after the loss, whereas the other spouse experiences intense distress? In such cases, would the individuals who are more distressed benefit from the presence or availability of a more resilient spouse? Would the lack of congruence in the experience of individual members lead to misunderstandings and individual coping efforts that interfere with one another? Some of these questions address the importance of interpersonal dynamics and are likely to assume considerable prominence in the examination of couples' adjustment after the death of a child.

Regarding relationship status, most of the studies reviewed included only married parents, with only two studies (Dyregrov & Gjestad, 2011; Eilegard and Kreicbergs, 2010) including cohabiting parents. The question of whether relationship status is important is an aspect that remains unanswered and therefore warrants focus in future research.

Finally, as argued by Hooghe, Mol, Baetens and Zech (2013), future studies should use a multi-method approach by including both quantitative and qualitative methods. Qualitative research can provide a particular contribution by exploring themes about which there is little knowledge or theory and exploring questions that quantitative methods cannot address. By complementing each other, qualitative and quantitative research can contribute to understanding the multidimensional and dynamic complexity of couples after the loss of a child. Also, by exploring the robustness of the main findings using sensitivity analysis, a meta-analysis approach should be considered in future studies.

**Clinical implications**

Bereaved parents have a need for support and connection from their spouses. However, in this context, the ability of partners to meet these needs may be compromised. These parents have experienced a mutual loss, and they may not have the resources to comfort each other (Rosenblatt, 2000). Therefore, when involving both parents in interventions, it is essential to assess how this traumatic event may have altered the relationship (e.g., communication, sexuality, intimacy) and which bereaved parents might be at higher risk of maladjustment. At the same time, given the evidence of resiliency in couples (e.g., Barrera et al., 2009), bereaved couples need to be informed and reassured that relationships can and do survive after a child's death (Rosenblatt, 2000). Assessment should also focus on the mechanisms by which couples can maintain or develop marital closeness and prevent relationship breakdown (Song et al., 2010). Furthermore, given the potentially protective role of marital closeness on parents' individual adjustment (Song et al., 2010), psychological interventions should focus on helping couples manage their difficulties and on maximizing couples' resources to cope with the loss of their child.

Considering the results of this review, two particular aspects emerge as especially important in work with bereaved couples: incongruent grieving and communication. Couples' mutual understanding of their individual grief responses has been associated with marital adaptive adjustment (Essakow & Miller, 2013). In order to provide the parents with valuable anticipatory guidance, mental health professionals should focus on early interventions such as psychoeducation. Both parents should be given information about differences in coping with the loss, grief manifestations and their potentially detrimental role on the marital relationship. Moreover, parents may also hold rigid expectations about

how their partner should grieve. Therefore it is important to assist couples in exploring the similarities and differences in their own grief responses and in understanding the origin of these differences (Rosenblatt, 2000).

Additionally, given the importance of communication within a couple and the likelihood that difficulties in this area may arise after the loss of a child, information about couples' communication strategies should be made available to the parents. For example, the complexities of communication with regard to talking as well as remaining silent should be discussed, and dissimilar meanings related to sharing grief experiences with the other parent should be explored (Hooghe, Neimeyer & Rober, 2011). In addition to the sharing of emotions, the importance of rituals to cope with the loss of the child has also been highlighted as an important aspect of dyadic coping (Bergstraesser et al., 2014). These interventions may help parents increase their empathy toward each other. In sum, for parents to rebuild their lives and relationships and move on following the loss of a child, it is important that they to do so together as a couple (Essakow & Miller, 2013) and acknowledge, communicate and respect their individual grieving needs (Toller & Braithwaite, 2009).

**Ethical considerations**

Despite acknowledging the undeniable vulnerability of bereaved parents and the expected expression of negative emotions associated with the research process, there is sufficient evidence that bereaved individuals can participate safely in research and that many parents find this process helpful (Barrera et al., 2009; Dyregrov, 2004; Stroebe, Stroebe, & Schut, 2003). However, a positive research experience can also be difficult, distressing or painful (Cook, 1995). Therefore, specific ethical considerations that may minimize the potential risks of the research process should be considered.

Recommendations for conducting ethical bereavement research include standard ethical considerations, such as the use of voluntary consent, the ability to refuse participation during enrollment in the study or to withdraw at any time, information about the risks and benefits of participation and the assurance of anonymity and confidentiality (Stroebe et al., 2003). However, given the sensitivity of the theme, additional specificities should be considered. For example, in a study by Dyregrov (2004), participants recommended that

grief researchers should contact them by letter when approaching for the first time, provide detailed written information before participation, allow participants to decide on the location of the meeting, listen respectfully, be empathetic and cautious, allow participants to think and ask questions, give participants extra and adequate time and provide care, discuss the results with the participants and allow them to give feedback. Additionally, participants recommended the use of trained interviewers with knowledge of bereavement processes and offers of follow-up conversations. In fact, not only must the research project staff be qualified in general but the researcher responsible for data collection must also be particularly skilled to proceed adequately during sample collection in the event that a participant becomes distressed after sharing his/her emotions in the context of the study (e.g., establish a backup system of professional help; Stroebe et al., 2003).

## Conclusion

The present review systematically assessed and summarized the methodological aspects and findings of recent studies on how the marital relationship is affected and how it affects individual adjustment after the loss of a child. Bereaved parents are not a homogeneous group. Although the death of a child can constitute a serious risk factor for marital dissolution, this event can also impact a couple's relationship in a positive way (cohesive effects). This article sheds light on the factors – situational, dyadic and individual – that contribute to adaptive and maladaptive marital responses to the loss of a child. The findings of this review also show that the potential role of marital quality, support and dyadic coping in the individual adjustment to the death of a child (e.g., HRQoL, posttraumatic growth and depressive symptoms) should be considered. It is important for future research to include larger samples, privilege the use couples, and use longitudinal data while consistently taking into account the ethical aspects of studying such a vulnerable group and such a sensitive theme. When working with bereaved parents, the two aspects that are of utmost importance are the marital assessment (including risk and protective factors) and the maximization of parents' strengths, with the aim of improving parents' functioning in a way that is supportive to each of them individually.

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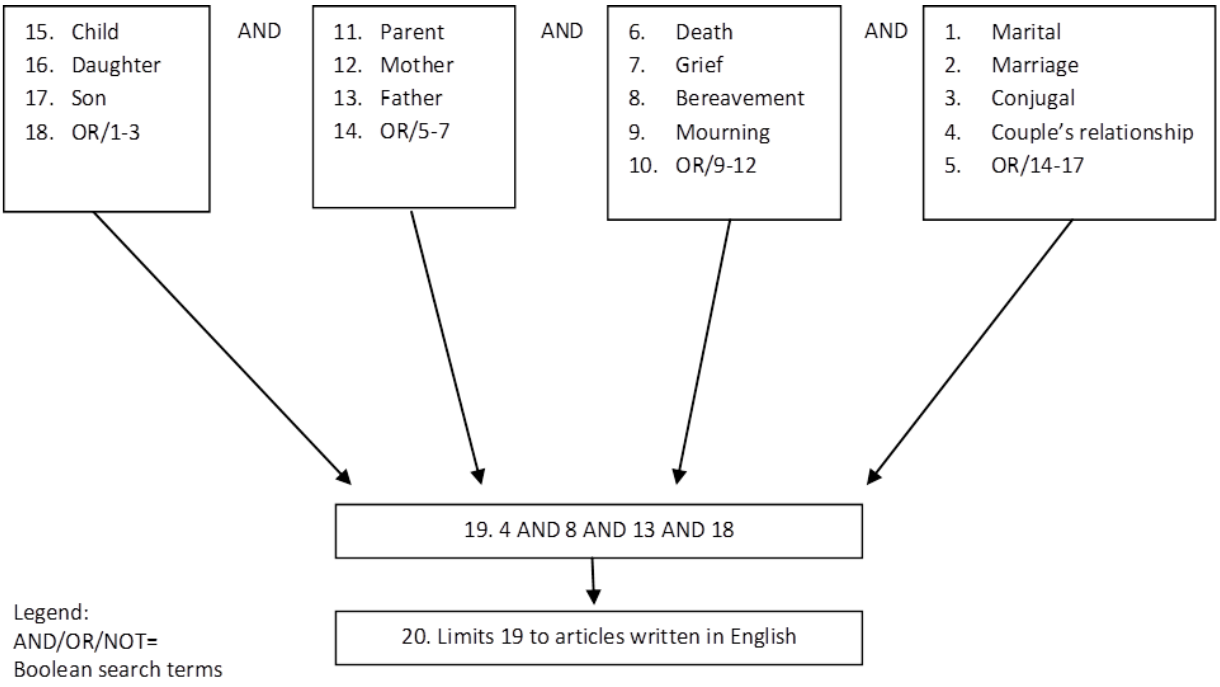
## Supplementary data - Appendix A



# Empirical study I

## Posttraumatic growth in bereaved parents: A multidimensional model of associated factors

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# Posttraumatic growth in bereaved parents: A multidimensional model of associated factors

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**Abstract**

*Objective*: Although the death of a child is a devastating event, recent evidence shows that personal growth is a relevant outcome of parents' grief. This study aimed to examine the factors associated with posttraumatic growth (PTG) and to propose a multidimensional model consisting of sociodemographic, situational, and intrapersonal and interpersonal factors.

*Methods*: A sample (*N* = 197; 89.8% female; mean age = 39.44 years) of bereaved parents completed the Post-Traumatic Growth Inventory-Short Form, the 14-Item Resilience Scale, the Continuing Bonds Scale and the Dyadic Coping Inventory.

*Results*: The final model consisted of sociodemographic, situational, intrapersonal and interpersonal factors of PTG, which accounted for 36.7% of the variance. Higher levels of PTG were generally associated with female sex, younger age of the child, higher levels of resilience, higher levels of internalized continuing bonds (i.e., internal representation of the child, maintaining psychological proximity), and higher levels of stress communication by the partner (communicating the stress experience and requesting emotional or practical support).

*Conclusions*: In clinical practice, health professionals assisting bereaved parents should pay attention to men and parents of older children, who might be at higher risk of difficulties in developing PTG. Additionally, promoting a more internalized bond with the child, resilience and dyadic coping, especially stress communication, can constitute important therapeutic goals.

**Keywords:** death of a child; multidimensional model; parental adjustment; posttraumatic growth.

## Introduction

Attention to the positive aspects of the aftermath of a trauma has increased over the past years, and several theories and models have focused on systematically defining these aspects (Armeli, Gunthert, & Cohen, 2001; Calhoun & Tedeschi, 2001). One positive aspect is posttraumatic growth (PTG), a term proposed by Tedeschi and Calhoun (1996, 2004) to refer to the self-reported positive changes that develop beyond one's previous level of psycho-logical functioning as a result of coping with highly challenging life circumstances and their aftermath. According to these authors, PTG is a multidimensional construct that includes changes in the domains of self-perception, interpersonal relationships and philosophy of life.

One assumption in Tedeschi and Calhoun's (1996, 2004) model is that for the occurrence of PTG, the event must be sufficiently traumatic, causing extreme distress and challenging one's fundamental understanding of the self, the world and one's place in it. The death of a child qualifies as such because it contests the natural order of life and may shatter parents' basic assumptions of the understanding of the world (Stroebe & Schut, 2001). The death of a child is also recognized to be among the most challenging and traumatic of losses (Rogers, Floyd, Seltzer, Greenberg, & Hong, 2008). Bereaved parents report intense grief and high levels of depressive symptoms and anxiety and they have a higher risk of mortality than average in the general population or than their non-bereaved counterparts (Li, Precht, Mortensen, & Olsen, 2003; Rogers et al., 2008).

Despite reports showing that parents may be unable to fully recover from the death of their child many years later (Wortman & Silver, 2001), there is evidence that personal growth is a relevant outcome of parental grief. Specifically, some studies of bereaved parents have described the centrality of PTG (Engelkemeyer & Marwit, 2008), the perception of increased empathy for others, the need to adjust values or reprioritize goals (Miles & Crandall, 1983) and the experience of competence and strength (Polatinsky & Esprey, 2000). In this context, an important question that remains is how the experience of PTG can emerge from such intense suffering. The clarification of factors that may influence PTG has been consistently identified as a research priority (Calhoun, Tedeschi, Cann, & Hanks, 2010). Therefore, the aim of this study was to examine a multidimensional model of

factors associated with PTG among bereaved parents. We hypothesized that three main types of factors contribute to PTG after the death of a child: 1) sociodemographic factors (parents and deceased child) and situational factors (factors related to the circumstances of the death); 2) intrapersonal factors, including individual characteristics, such as resilience, and after-death factors, such as continuing bonds i.e., the maintenance of the relationship with the child; and 3) interpersonal factors, such as dyadic coping (DC). The selection of these factors was guided by the existing literature, both in general PTG literature as well as among studies conducted with bereaved parents. Considering the evidence of the negative association between grief and growth (e.g., Engelkemeyer & Marwit, 2008; Gamino, Sewell, & Easterling, 2000), Engelkemeyer and Marwit (2008) argued that factors that help in coping with grief may also promote the perception of growth. Therefore, studies that used grief as an outcome were considered in the hypothesis of this study.

**Sociodemographic and situational factors**

A review by Linley and Joseph (2004) on positive change following adversity underlined the existence of gender differences in PTG in several contexts (e.g., breast cancer, bereavement, illness or accident). In a sample of men and women who were traumatized by various events, Tedeschi and Calhoun (1996) found that perceptions of growth by traumatized women were double of those by traumatized men, suggesting that women may be more able than men to learn and benefit from difficult life experiences. Other studies in various contexts have reported similar results, revealing that higher levels of PTG have been reported among women (Vishnevsky, Cann, Calhoun, Tedeschi, & Demakis, 2010; Weiss, 2002). Additionally, the PTG model assumption that growth takes time to emerge (Tedeschi & Calhoun, 1995) has been confirmed in the parental bereavement literature, which indicates that time since death correlates with higher PTG (Engelkemeyer & Marwit, 2008; Scholtes & Browne, 2015).

Research with bereaved parents has demonstrated the protective role of having other children. Dyregrov, Nordanger and Dyregrov (2003) found that one of the most significant predictors of psychosocial distress was not having surviving children. Similarly, Wijngaards-de Meij et al. (2005) found that parents had lower levels of grief when they

had other children. In this study, the authors also found that higher age of the child was related to higher grief; this finding was also confirmed in a study by Lichtenthal, Currier, Neimeyer, and Keesee (2010). More recently, Scholtes and Browne (2015) found that child's age at death was negatively associated with personal growth. Regarding the factors related to the child's death, the unexpectedness of the death has been found to be associated with poorer parental outcomes (e.g., more intense grief; Barry, Kasl, & Prigerson, 2002; Wijngaards-de Meij et al., 2005). Another important feature is whether parents, according to their own perception, said goodbye to their child. The general bereavement literature attests that saying goodbye is salutary (Gamino et al., 2000; Schut, de Keijser, van den Bout, & Dijkhuis, 1991). This finding was supported in a longitudinal study with bereaved parents that found that the feeling of having said goodbye to the child was associated with lower levels of grief (Wijngaards-de Meij et al., 2008).

**Intrapersonal factors**

Schaefer and Moos (2001) proposed that personal resources affect individuals' appraisal and coping during and after bereavement, which in turn affect post-bereavement outcomes, such as personal growth. One of such personal resources is resilience, with evidence showing it's positive association with growth (Bensimon, 2012) and centrality for PTG during grief (Znoj, Kruit, & Wuthrich, 2004). Continuing bonds with the child, or the continued connection after death, has been proposed as another relevant factor associated with PTG (Field & Filanosky, 2010). These authors specifically identified two forms of continuing bonds: internalized continuing bonds, which are defined as expressions involving use of the deceased as an autonomy-promoting secure base, and externalized continuing bonds, which refer to expressions involving illusions and hallucinations of the deceased. Continuing bonds have been identified as an integral component of adjustment to bereavement, and recent works have proposed that the adaptiveness of continuing bonds might depend on the form of their expression for the bereaved (Stroebe & Schut, 2005). When examining the association between internalized and externalized continuing bonds and PTG, Field and Filanosky (2010) found that internalized continuing bonds were uniquely positively associated with personal growth, a link that has been confirmed in recent studies (Scholtes & Browne, 2015).

### Interpersonal factors

Most empirical work on PTG has focused on individuals without considering the impact of their social support networks. This lack of a perspective that accommodates interpersonal processes has been criticized by several authors (e.g., Calhoun & Tedeschi, 2006). A growing body of recent work has suggested that close relationships can support PTG. Relationship quality, self-disclosure, and support seeking were found to be associated with greater PTG (e.g., Hungerbuehler, Vollrath, & Landolt, 2011; Lindstrom, Cann, Calhoun, & Tedeschi, 2013; Prati & Pietrantoni, 2009). Studies have also shown that partner support can serve as a basis for PTG and PTG-related concepts (e.g., meaning finding) in several loss contexts (Canevello, Michels, & Hilaire, 2016), including parental bereavement (Albuquerque, Pereira, & Narciso, 2016; Polatinsky & Esprey, 2000). In this context, DC may be considered a key interpersonal factor associated with PTG. Dyadic coping consists of the efforts of one partner to support the other when he or she is stressed and both partners' mutual attempts to cope with a shared stressor (Bodenmann, 2005). Because bereaved parents concurrently experience the traumatic event that is the death of a child, mutual support between individuals who truly understand each other's experience may be particularly important for individual adjustment. Hence, DC may be a potentially sound resource for the development of PTG after the death of a child.

### The present study

The aim of this study was to examine the combined contribution of factors at different levels (sociodemographic, situational, intrapersonal and interpersonal) to PTG among bereaved parents. The findings from this study will add to current knowledge concerning PTG as an outcome of parental bereavement by testing a multidimensional model of factors and focusing on newly or rarely addressed variables (e.g., having said goodbye to the child, continuing bonds, dyadic coping).

## Method

### Participants and procedure

The present study was approved by the Ethics Committees of the Faculty of Psychology and Education Sciences of the hosting institution and several hospitals across the country. Participants were recruited among the general population (through internet dissemination

using bereavement associations' mailing lists, bereavement blogs or groups in social networks) and through references from mental health professionals, between November 2013 and May 2015.

Participants completed an online survey on the website of the hosting institution or a paper version of the set of questionnaires. Informed consent was attached to both forms of the assessment protocol (online or paper) and included detailed information about the study's aims, the inclusion criteria, the participants' and researchers' roles, the confidentiality and anonymity of the answers and the possible risks associated with participation in the study (e.g., triggering of painful memories and emotions).

The following inclusion criteria were defined: (1) having lost a child (of any age) by death; (2) being married or cohabiting; (3) minimum time since death of six months (to avoid the crisis period; e.g., Stroebe, Stroebe, & Schut, 2003); (4) being at least 18 years of age; and (5) having sufficient knowledge of language to complete the set of questionnaires. In the paper version, participants were asked to complete the assessment protocol and to return it anonymously in a sealed envelope either to the health professionals or directly to the researcher (first author).

The final sample consisted of 197 parents with a mean age of 39.44 years (standard deviation [*SD*] = 11.32; range: 18-79). The parents were mostly female (89.8%), and married (86.3%) or cohabiting (13.7%). The length of the marital relationship ranged between 0 and 56 years (*M* = 16.70; *SD* =11.95). Years of education ranged from 3 to 19 years (*M* = 13.41; *SD* = 3.89). Most parents were employed (59.9%) and had other children (71.1%). The deceased offspring were mostly male (59.4%). The age of the deceased offspring ranged from stillborn to 52 years (*M* = 8.96; *SD* = 12.35), and the time since death ranged from six months to 10 years (*M* = 2.76 years; *SD* = 2.34). The causes of death included fetal death (27.4%), illness (23.4%), accident (16.2%), neonatal death (16.2%), sudden death (7.6%), suicide (4.6%) or homicide (4.1%). For most parents (81.2%), the death of the child was unexpected.

## Measures

### Sociodemographic and situational factors

A self-reported questionnaire, purposely developed for this study, was used to collect parents' and offspring's sociodemographic data and information regarding the circumstances of the child's death. Parents provided information on sex, age, marital status (single, married, cohabiting, separated/divorced or widowed), length of the marital relationship, years of education, employment status (employed, unemployed, retired or student), existence of other children (yes/no question), deceased child's age and sex, time since death, cause of death (fetal death, illness, accident, neonatal death, sudden death, suicide or homicide), expectedness of death (yes/no question), place of death (hospital, home or other), and having said goodbye (yes/no question).

### Post-Traumatic Growth Inventory-Short Form (PTGI-SF)

The PTGI-SF (Cann et al., 2010) assesses perceived positive outcomes of traumatic or stressful events on the following five subscales: personal strength, spiritual change, relating to others, appreciation of life, and new possibilities. The PTGI-SF comprises 10 items with six response alternatives, ranging from 0 (*no change*) to 5 (*high degree of change*). Scores on the PTGI-SF range between 0 and 50, with higher scores reflecting a higher level of PTG. The original study of the PTGI-SF, which included a sample of bereaved parents, showed satisfactory reliability and validity (Cann et al., 2010), which was later replicated in studies with other samples (Kaler, Erbes, Tedeschi, Arbisi, & Polusny, 2011; Lamela, Figueiredo, Bastos, & Martins, 2014). In this study, the total of the scale was used (Cronbach's alpha = .90).

### 14-Item Resilience Scale (RS-14)

The RS-14 (Wagnild & Young, 1993) is a 14-item scale that assesses resilience, that is, the capacity to endure life stressors and to thrive and make meaning from challenges. Respondents are asked to rate the items on a seven-point response scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Scores on the RS-14 range between 14 and 70. Higher scores denote higher resilience. The RS-14 has been shown to be reliable and valid

across multiple studies (Nishi et al., 2013; Oliveira, Matos, Pinheiro, & Oliveira, 2015). In the current study, the Cronbach's alpha was .92.

### Continuing Bonds Scale (CBS-16)

The CBS-16 (Field & Filanosky, 2010) assesses the maintenance of the relationship with the lost child. This scale is organized into two subscales: internalized continuing bonds (internalized CB; 10 items) and externalized continuing bonds (externalized CB; 6 items). The first subscale refers to an abstract internal representation of the deceased, or maintaining psychological proximity. The second consists of the search for physical proximity and can be expressed by delusions and hallucinations. The items are answered on a four-point response scale ranging from 0 (*Never*) to 3 (*Very often*), referring to experiences in the last month. Scores on the CBS-16 range between 0 and 32, with higher scores reflecting a higher level of continuing bonds. The good reliability and validity of CBS-16 has been demonstrated previously (De Luca et al., 2016). In this study, internal consistency was .86 for internalized CB and .85 for externalized CB.

### Dyadic Coping Inventory (DCI)

The DCI (Bodenmann, 2008) is a 37-item inventory that assesses stress communication and DC as perceived by each partner about their own coping, each partner's perception of the other's coping and each partner's view of how they cope as a couple. The DCI is organized into seven subscales: stress communication (by oneself and by the partner) includes the ability to communicate the stress experience and to request emotional or practical support; positive DC (by oneself and by the partner) includes supportive behaviors (one partner expressing understanding and solidarity or providing information and practical advice to the other) and delegated behaviors (one partner taking over certain tasks and responsibilities to relieve the partner's burden following an explicit request from the other partner); negative DC (by oneself and by the partner) includes hostility toward the partner; and joint DC refers to mutual attempts by both partners to cope with a shared stressor together and involves joint problem solving and information seeking, shared feelings, mutual commitment, or joint relaxation (Bodenmann, 2005). The items are answered on a five-point scale ranging from 1 (*Very rarely*) to 5 *(Very often)*. The

mean of the respective items serves as the subscales' total scores. Higher scores on the positive and joint DC subscales and lower scores on the negative DC subscales indicate better DC. Adequate reliability and validity for the DCI was demonstrated in numerous studies (Ledermann et al., 2010; Vedes, Nussbeck, Bodenmann, Lind, & Ferreira, 2013). In this study, all Cronbach's alphas were above .70, with the exception of the negative DC by oneself subscale (α = .67).

### Data analysis

Data analyses were conducted using the Statistical Package for the Social Sciences (IBM SPSS, version 20.0). Descriptive statistics were calculated to explore the sample's characteristics. Pearson's correlations were performed to assess the associations between the study variables. Hierarchical Multiple Regression (HRM) analysis was conducted to examine the factors associated with PTG. Prior to conducing HRM, the relevant assumptions were tested (sample size, collinearity statistics) and the categorical variables (parents' gender, having other children, unexpectedness of death and having said goodbye) were dummy coded. Research suggests that the observations of the two members of a given couple cannot be treated as independent observations (Kenny, Kashy, & Cook, 2006). In this study, when complete couples were included as separate observations in the individual-level data file, one member of the couple was randomly excluded. According to Cohen's (1992) guidelines, $f^2 \geq 0.02$, $f^2 \geq 0.15$, and $f^2 \geq 0.35$ represent small, medium, and large effect sizes, respectively.

## Results

### Preliminary analysis

Table 1 presents the descriptive statistics and the Pearson correlations between the study variables. All variables were significantly correlated with PTG, except for parents' gender, having other children, unexpectedness of death, time since death, externalized bonds, and negative DC by oneself and by the partner. Child's age was negatively correlated with PTG. Having said goodbye to the child, resilience, internalized CB and the remaining DC forms were positively correlated with PTG.

**Table 1** I Descriptive statistics and Pearson's correlations for the study variables

| | Mean (SD) / % | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 40.42 (12.48) | - | .14 | -.11 | -.19** | -.03 | .23** | .04 | .41*** | .19** | .03 | .21** | .38*** | -.13 | .28*** | .30*** | .01 | .36*** |
| 2 | 89.8% female | | - | .12 | -.05 | -.01 | -.09 | .10 | -.10 | .23** | .24** | .09 | .04 | .01 | -.16** | -.06 | .06 | -.01 |
| 3 | 71.1% yes | | | - | .33*** | .08 | -.14 | .29*** | -.14* | .12 | .24** | -.12 | -.18** | .16* | -.01 | -.10 | .05 | -.17* |
| 4 | 8.96 (12.35) | | | | - | .06 | -.24** | .11 | -.10 | .36*** | .35*** | -.13 | -.12 | .11 | -.07 | -.15* | .07 | -.29*** |
| 5 | 81.2% unexpected | | | | | - | .26*** | .16* | -.02 | -.10 | -.16* | .12 | -.01 | -.07 | .06 | .10 | -.17* | .11 |
| 6 | 56% no | | | | | | - | .09 | .19** | -.07 | -.17* | .27*** | .21** | -.06 | .22** | .29*** | -.11 | .30*** |
| 7 | 33.09 (28.07) | | | | | | | - | .05 | .13 | .09 | -.01 | -.01 | .10 | -.03 | -.06 | -.01 | -.04 |
| 8 | 68.62 (18.82) | | | | | | | | - | -.07 | -.15* | .28*** | .43*** | -.11 | .36** | .45*** | -.20** | .48*** |
| 9 | 1.66 (0.85) | | | | | | | | | - | .60*** | .05 | .01 | .09 | -.09 | -.02 | .16* | -.09 |
| 10 | 0.72 (0.83) | | | | | | | | | | - | -.12 | -.05 | .16* | -.14 | -.15* | .23** | -.22** |
| 11 | 3.10 (1.10) | | | | | | | | | | | - | .43*** | -.32*** | .27** | .61*** | -.15* | .58*** |
| 12 | 3.50 (0.86) | | | | | | | | | | | | - | -.32*** | .37** | .62*** | -.21** | .60*** |
| 13 | 1.86 (0.78) | | | | | | | | | | | | | - | .01 | -.36*** | .39*** | -.29*** |
| 14 | 3.04 (0.99) | | | | | | | | | | | | | | - | .38*** | -.10 | .39*** |
| 15 | 3.20 (1.09) | | | | | | | | | | | | | | | - | -.40*** | .78*** |
| 16 | 2.19 (0.93) | | | | | | | | | | | | | | | | - | -.43*** |
| 17 | 3.14 (1.13) | | | | | | | | | | | | | | | | | - |

**Note.** 1 = Posttraumatic Growth; 2 = Parents' gender; 3 = Other children; 4 = Child's age; 5 = Death unexpectedness; 6 = Possibility of goodbye; 7 = Time since death; 8 = Resilience; 9 = Internalized Bonds; 10 = Externalized Bonds; 11 = Stress Communication by Oneself; 12 = Positive Dyadic Coping by Oneself; 13 = Negative Dyadic Coping by Oneself; 14 = Stress Communication by Partner; 15 = Positive Dyadic Coping by Partner; 16 = Negative Dyadic Coping by Partner; 17 = Joint Dyadic Coping.
* $p < .05$; ** $p < .01$; *** $p < .001$

### Hierarchical multiple regressions

To examine the factors associated with PTG, HRM were conducted. Given the high correlation between joint DC and other DC forms, particularly positive DC by the partner ($r$ = .78, $p$ < .001), joint DC was not included in the regression model. The regression models consisted of three steps. Step 1 included the sociodemographic (parents' gender, having other children and child's age) and situational factors (unexpectedness of death, having said goodbye and time since death); intrapersonal factors (resilience and internalized and externalized CB) were entered in step 2; and the interpersonal factors (forms of DC) was added in step 3. The collinearity statistics (Variance Inflation Factor [VIF] < 10; tolerance > 0.2; Condition Index < 30) suggested that there were no multicollinearity problems.

**Table 2** I Summary of hierarchical regression analysis for variables predicting

| Variable | Model 1 | | | Model 2 | | | Model 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | *B* | *SE B* | *β* | *B* | *SE B* | *β* | *B* | *SE B* | *β* |
| Parents' gender | 7.44 | 3.01 | .18* | 5.39 | 2.75 | .13 | 5.92 | 2.75 | .14* |
| Other children | -1.89 | 2.09 | -.07 | -0.16 | 1.89 | -.01 | 0.03 | 1.89 | .001 |
| Child's age | -0.01 | 0.01 | -.10 | -0.02 | 0.01 | -.19* | -0.02 | 0.01 | -.18* |
| Death unexpectedness | -3.02 | 2.35 | -.09 | -1.15 | 2.11 | -.04 | -0.65 | 2.10 | -.02 |
| Possibility of goodbye | 5.80 | 1.88 | .23* | 3.70 | 1.69 | .15* | 3.18 | 1.70 | .13 |
| Time since death | 0.02 | 0.03 | .04 | -0.01 | 0.03 | -.02 | 0.00 | 0.03 | .000 |
| Resilience | | | | 0.27 | 0.04 | .40*** | 0.21 | 0.05 | .32*** |
| Internalized Bonds | | | | 4.21 | 1.16 | .29*** | 4.26 | 1.15 | .30*** |
| Externalized Bonds | | | | 0.03 | 1.23 | .002 | -0.24 | 1.22 | -.02 |
| SCO | | | | | | | -1.32 | 0.91 | -.12 |
| PDCO | | | | | | | 1.82 | 1.20 | .12 |
| NDCO | | | | | | | -2.13 | 1.15 | -.14 |
| SCP | | | | | | | 1.81 | 0.88 | .14* |
| PDCP | | | | | | | 0.48 | 1.13 | .04 |
| NDP | | | | | | | 1.71 | 0.96 | .13 |
| $\Delta R^2$ | | .103 | | | .207 | | | .057 | |
| $F$ for $\Delta R^2$ | | 3.56** | | | 18.23*** | | | 2.62* | |

Note: SCO = Stress Communication by Oneself; PDCO = Positive Dyadic Coping by Oneself; NDCO = Negative Dyadic Coping by Oneself; SCP = Stress Communication by Partner; PDCP = Positive Dyadic Coping by Partner; NDCP = Negative Dyadic Coping by Partner.

* $p$ < .05; ** $p$ < .01; *** $p$ < .001

posttraumatic growth

The final models are displayed in Table 2. In step 1, parents' gender (being female) and the possibility of saying goodbye were significantly associated with increased PTG, explaining 10.3% of the variance in PTG. When the intrapersonal factors were added (step 2), resilience and internalized CB were significantly associated with increased PTG and accounted for 20.7% of the additional variance in PTG. This addition was significant, and the effect size attributable to the addition of intrapersonal factors was medium to large [Cohen's $f^2$ = 0.30]. Finally, in step 3, when adding the forms of DC, only stress communication by the partner was significantly associated with PTG, and explained 5.7% of the additional variance [Cohen's $f^2$ = 0.09]. The final model accounted for 36.7% of the total variance.

## Discussion

This study examined the association between PTG and sociodemographic and situational factors as well as intra- and interpersonal variables among bereaved parents. The main findings indicate that sociodemographic and situational factors and, in particular, intrapersonal factors were significantly associated with PTG. Specifically, higher levels of PTG were significantly associated with female sex, younger age of the child, higher levels of resilience and of internalized continuing bonds, and higher levels of stress communication by the partner.

In this study, women reported higher levels of PTG. This result has been consistently reported in the literature (for a review, see Linley & Joseph, 2004; Vishnevsky et al., 2010) and supports the suggestion of Tedeschi and Calhoun (1996) that women are more likely than men to derive benefits from challenging life events. Some potential underlying processes may lead to overall gender differences in PTG. One refers to the women´s tendency for engaging in more deliberate rumination than men (Treynor, Gonzalez, & Nolen-Hoeksema, 2003), possibly about aspects such as increased awareness of personal strengths or an appreciation of the importance of social connections, which have been suggested to be associated with higher levels of PTG (Tedeschi & Calhoun, 2004). An alternate explanation may be the fact that women are more likely to use emotion-focused

coping strategies (de Ridder, 2000), which have also been found to be positively associated with PTG (Helgeson, Reynolds, & Tomich, 2006).

Parents who lost younger children also reported higher levels of PTG, corroborating previous findings of a negative association between child's age and personal growth (Scholtes & Browne, 2015) and suggesting that there seems to be additional complexities when an older child dies (Wijngaards-de Meij et al., 2005). Authors have suggested that the complexities of a child's death depend on the extensive emotional investment that is made in the relationship with the child (Klass, 1993). Therefore, the attachment bonds may be stronger for parents of older children in comparison with infant deaths (Rogers et al., 2008). Because 27.4% of the parents in our study lost their child before birth, it is possible that this result may be due to the different timings of child's death (before and after birth) in the present sample.

The addition of intrapersonal factors accounted for a significant degree of variance in PTG. Particularly, resilience and internalized CB appeared to be the most relevant factors associated with PTG. The positive association between resilience and PTG is not surprising, and has been previously shown by the positive influence of personal resources and characteristics in coping and appraisals during and after bereavement (Schaefer & Moos, 2001). More recently, reinforcing this positive association, one study found that stress appraisal as a challenge (positive appraisal) significantly mediated the association between resilience and PTG and was conducive to growth after trauma (Ogińska-Bulik & Kobylarczyk, 2016). Overall, in the face of adversity, such as when a child dies, resilience, defined as a positive personality characteristic, may enhance the parents' ability for dealing with child's death and, therefore, to promote their growth with less psychological wounds.

The association between internalized CB and PTG also confirms previous findings showing that this form of CB serves as an important resource in facilitating personal growth (Field & Filanosky, 2010; Scholtes & Browne, 2015). The acknowledgement of the reality of death and the use of the child as an internalized secure base in this form of CB may explain its facilitating role in PTG and, therefore, in a more adaptive adjustment to the loss (Field & Filanosky, 2010). Moreover, as suggested by Scholtes and Browne (2015), internalized CB

do not interfere as much as externalized CB with bereaved parents' daily life or relationships, which may explain why internalized CB may have a more relevant role in the development of positive grief outcomes for bereaved parents, such as PTG.

Based on the findings of this study, PTG also seems to be a dyadic process, as shown by the significant associations between PTG and the forms of DC. These associations confirm previous research showing the role of marital support in the promotion of PTG (Canevello et al., 2016). However, in the final regression model, only stress communication by the partner (one's perception of the ability of the partner to communicate the stress experience and to request emotional or practical support) was significantly associated with increased PTG. This finding is in agreement with past research showing an association between disclosure about highly stressful events and growth (Taku, Tedeschi, Cann, & Calhoun, 2009). Indeed, it has been shown that self-disclosure and open communication between bereaved couples may enhance feelings of closeness and understanding (Albuquerque et al., 2016), which in turn may positively influence both partners, namely promoting growth. Our sample is mostly constituted by women, which have been found to value open communication significantly more than men (Kamm & Vandenberg, 2001). Therefore, it is possible that women may value their partner's openness and good communication (who, eventually, may have less difficulties of sharing his own grief and to be appropriately supportive), thus contributing to a joint grieving process and, consequently, to their PTG. Nevertheless, because this was the first study examining the association between DC forms and PTG, additional research is needed to clarify the associations reported herein. In future studies it would be also valuable to incorporate and expand other interpersonal variables (e.g., dyadic adjustment) in models attempting to explain PTG, to determine whether our results are replicated.

Some non-significant findings were particularly unexpected. Although growth may indeed take time to emerge (Tedeschi & Calhoun, 1995), in our study, time since the death was not significantly associated with PTG. One might expect increased PTG with longer time since death, only if it allows more time for cognitive processing. Thus, it is possible that the interaction of this variable with time since death may be more important for the occurrence of PTG (Tedeschi & Calhoun, 2004) than the passage of time alone. Because the death of a child is a unique type of loss, further studies are needed to confirm this

hypothesis. The non-significant association between unexpectedness of death and PTG is contrary to the evidence showing an association between the unexpectedness of death (and feelings of lack of preparedness for it) and more intense grief (e.g., Barry et al., 2002; Wijngaards-de Meij et al., 2005). However, it is in line with one study that did not find differences between survivors of sudden and anticipated death (Carr, House, Wortman, Nesse, & Kessler, 2001) and that suggested a complex association between bereavement and circumstances of death. To better understand these inconsistencies, future studies with bereaved parents examining the association between preparedness for death and PTG would be of value.

Although having surviving children has been generally associated with more adaptive adjustment and can provide a continued sense of purpose in life (e.g., Wijngaards-de Meij et al., 2005), in this study, having other children and PTG were not associated. However, it has also been suggested that having to take care of other children can be experienced as a burden (Harper, O'Connor, Dickson, & Ronan, 2011). Accordingly, it is possible that parents may not have the time or energy required to work through their own grief, therefore lessening their possibilities of PTG. Finally, the non-confirmation of the protective role of saying goodbye in the final model was surprising, particularly given the literature that supported the associations and contribution of this variable to PTG (e.g., Engelkemeyer & Marwit, 2008; Schut et al., 1991). Nevertheless, it is noteworthy that in the model without the forms of DC, parents who perceived having had the possibility of saying goodbye reported higher levels of PTG. To some extent, this association confirms the protective role of saying goodbye that is advocated in bereavement research (Gamino et al., 2000; Schut et al., 1991).

**Limitations and future research**

This study is not without limitations. Although we found significant associations between bereaved parents' PTG and sociodemographic, situational, and intra- and interpersonal factors, the study's cross-sectional nature precludes any conclusions regarding causal relationships between the study variables. To overcome this limitation, longitudinal studies should be undertaken to determine the directions of the associations reported herein. This is of utmost importance, especially given the risks of therapeutic rejection by bereaved

parents if PTG is emphasized too prematurely (Sheikh, 2008). Our findings should also be interpreted with caution in light of the (though common in the bereavement literature; Albuquerque et al., 2016) significant imbalance between men and women, the predominance of Caucasian parents, as well as the heterogeneity of the sample regarding, for instance, the child's age and the causes of death. In future studies, it may be relevant to examine whether the proposed variables' contributions differ depending on these variables, perhaps through a moderation analysis with such variables as moderators. Because poverty has been considered a major stressor that affects bereavement outcomes (Stroebe, Schut, & Stroebe, 2007)**,** the inclusion of measures of income and socioeconomic status would have been valuable. As well, given the importance of cultural aspects in parents' grieving process (Rosenblatt, 2013) and PTG (Splevins, Cohen, Bowley, & Joseph, 2010), information on parents' race/ethnicity should also be considered in future research.

**Strengths and clinical implications**

This study offers an important contribution to the literature by highlighting alternative pathways that are possible and observable among bereaved parents, such as the possibility of positive outcomes (PTG), thereby broadening the traditional focus on negative outcomes. This study attests to the complexity of PTG by incorporating different and wide-ranging types of factors. This study also demonstrates the complexity within the factors by testing the associations with both forms of CB (internalized and externalized), contrary to general research on continuing bonds that focus solely on CB as a whole (Field & Filanosky, 2010). Finally, our findings expand current knowledge on the PTG of bereaved parents by focusing on newly or incipiently addressed factors, such as continuing bonds and dyadic coping. Nevertheless, other intrapersonal variables, such as personality characteristics, and interpersonal variables, such as marital intimacy, satisfaction with the relationship and partner's support, would also be relevant points of investigation.

This study has some important implications for clinical practice. First, it allows us to identify bereaved parents who may be at higher risk of lower PTG. For example, fathers and parents who have lost older children may require additional clinical attention. Our findings also offer some insight into areas that might prove fruitful in a clinical setting. First, promoting a more internalized nature of the bond to the deceased child and

promoting psychological proximity rather than physical proximity (which characterizes externalized continuing bonds) may be important goals in intervention (Field & Filanosky (2010). Because of the relevant contribution of the perception of saying goodbye, it seems that this variable makes a difference to parents' adjustment. Encouraging parents who did not have the opportunity to say goodbye to find an individualized, symbolic way to say goodbye can constitute an important therapeutic goal (Wijngaards-de Meij, 2008). In addition, parents should be encouraged to make an effort to support each other and, especially, to be open in their communication, by providing information on their grieving experience, as well as how and when they need support from the partner.

Finally, it is important to promote PTG sensitively and with caution. Clinicians should be made aware that promoting PTG should not preclude intervention in coping with intense negative emotions. As several authors have proposed, PTG requires individuals to experience the ability to effectively cope, manage emotions, and experience psychological relief (Calhoun & Tedeschi, 2001; Tedeschi & Calhoun, 2004). Moreover, as noted by these authors, parents' difficulty and reluctance to find something good in their loss should be validated, and professionals who assist bereaved parents should not rigidly expect PTG to be an outcome of the intervention.

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# Empirical study II

## Dyadic coping mediates the relationship between parents' grief and dyadic adjustment following the loss of a child

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# Dyadic coping mediates the relationship between parents' grief and dyadic adjustment following the loss of a child

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**Abstract**

Background and Objectives: This study aimed to examine forms of dyadic coping (DC) as mediators of the association between parents' grief response and dyadic adjustment and to determine whether these indirect effects were moderated by the child's type of death, timing of death and age.

Design: The study design was cross-sectional.

Method: The sample consisted of 197 bereaved parents. Participants completed the Prolonged Grief Disorder Scale, Revised Dyadic Adjustment Scale, and Dyadic Coping Inventory.

Results: Significant indirect effects of parents' grief response on dyadic adjustment were found through stress communication by oneself and by the partner, positive and negative DC by the partner and joint DC. The timing of death moderated the association between grief response and dyadic adjustment and between joint DC and dyadic adjustment. Grief response was negatively associated with dyadic adjustment only when the death occurred after birth. Grief response was negatively associated with joint DC, which, in turn, was positively associated with dyadic adjustment, when the death occurred both before and after birth. However, the association was stronger in the latter.

Conclusions: Specific forms of DC might be mechanisms through which grief response is associated with dyadic adjustment and should be promoted in clinical practice.

**Keywords:** death of a child; dyadic adjustment; dyadic coping; grief response; death circumstances.

## Introduction

The death of a child is the most serious source of bereavement that a parent can experience (Sanders, 1980). Bereaved parents have been identified as a group that is highly vulnerable to physical health problems, lower quality of life (Song, Floyd, Seltzer, Greenberg, & Hong, 2010), depression (Li, Laursen, Precht, Olsen, & Mortensen, 2005), emotional distress (Wijngaards-deMeij et al., 2005), and even mortality (Li, Precht, Mortensen, & Olsen, 2003). In a recent systematic review, Albuquerque, Pereira, and Narciso (2016) reported that the death of a child is an event that causes substantial stress on the parents' marital relationship and, thus, constitutes a serious risk factor for marital dissolution.

The grief response has been emphasized as an important variable to consider when examining the impact of the death of a child. Parental grief responses are particularly severe, overwhelming, enduring, and complicated, with symptoms that fluctuate over time (Rando, 2000). The grief response has also been found to be negatively associated with relationship satisfaction (Lang & Gottlieb, 1993; Vance, Boyle, Najman, & Thearle, 2002) and couples' togetherness (Malkinson & Bar-tur, 2005). Because parents face their bereavement simultaneously, they can be deprived of their individual resources and, consequently, might be too distressed to support each other or handle their partner's intense grief (Rosenblatt, 2000). When coping with grief, there is also evidence that parents can have different coping styles, which might add to their distress and lead to marital difficulties (Buyukcan-Tetik, Finkenauer, Schut, Stroebe, & Stroebe, 2016; Reilly-Smorawski, Armstrong, & Catlin, 2002; Rosenblatt, 2000). Accordingly, the distress that is caused by bereavement might hinder parents' mutual support and influence their perception of their partner's support, thereby influencing their dyadic adjustment. In this study, we hypothesized that dyadic coping (DC) could mediate the association between grief response and dyadic adjustment.

There is sound evidence confirming the importance of marital support to both the individual and the relational adjustment of bereaved parents (Lang, Gottlieb, & Ansel, 1996; Song et al., 2010). However, it has been reported that DC takes marital support a step further. According to the systemic-transactional model (STM; Bodenmann, 1997,

2005), DC is a dynamic form of interpersonal coping that involves both members of a couple. It consists of (1) stress communication, which includes the ability to communicate the stress experience and to request support; (2) positive DC, which includes supportive behaviors (expressing understanding or providing advice to the other) and delegated behaviors (taking over certain tasks of the partner); (3) negative DC that refers to hostility toward the partner; and (4) joint DC, which refers to mutual attempts by both partners to cope with a shared stressor together and involves joint problem solving and information seeking, shared feelings, mutual commitment, or joint relaxation (Bodenmann, 2005). This dyadic phenomenon might be especially important for bereaved parents because they are concurrently experiencing a highly stressful and traumatic experience; therefore, they must not only manage their own individual adjustment but also attend to their partner's support needs (Rando, 2000). As a result, it might be fruitful to extend the concept of DC to bereaved parents on whom the current knowledge is incipient.

**Association between DC and relational outcomes**

The association between DC and relational outcomes has been confirmed by several studies that have shown how the extent and quality of couples' positive DC are associated with greater relationship quality and satisfaction (e.g., Martin, Peter-Wight, Braun, Hornung, & Scholz, 2009). The few studies that have focused on the specific forms of DC have reported a similar pattern. Higher levels of supportive DC (enacted by the partner or by oneself), joint DC, and stress communication and lower levels of negative DC (enacted by the partner) have been emphasized as important for relationship satisfaction and marital quality (Bodenmann, Pihet, & Kayser, 2006; Regan et al., 2014). To the best of our knowledge, only one study explored the DC of parents after the death of a child (Bergstraesser, Inglin, Hornung, & Landolt, 2015). This study found that supportive DC from the partner and particularly joint DC (demonstrated by sharing emotions and maintaining continuing bonds with the child such as joint grave attendance) helped parents to work through their grief not only as a couple but also as individuals. Notably, this finding related to specific forms of DC emerged from qualitative analysis. In the quantitative analysis, the authors used the total DC score, thereby reinforcing the generalized absence in the DC literature of the specific role of the different forms of DC.

Recently, a meta-analysis that compared the specific contributions of the different forms of DC to relationship satisfaction (Falconier, Jackson, Hilpert, & Bodenmann, 2015) indicated that DC enacted by one's partner and DC enacted by the partners together (joint DC) were stronger predictors of relationship satisfaction than DC enacted by oneself. These authors also suggested that although both overall positive DC and overall negative DC are relevant to relationship satisfaction, this variable might depend more on the partners' joint and individual efforts to engage in successful, positive DC strategies, rather than the reduction of negative DC responses. Taken together, prior research has shown not only that DC has potential benefits for the well-being of the relationship but also that the roles of the different forms of DC are empirically distinct (Falconier et al., 2015). Therefore, it is essential to move beyond the prevalent use of DC as a total score and to distinguish between its different forms to provide more precise intervention targets in the context of the marital relationship. This approach is particularly important because there is a lack of focus on the forms of DC related to stress communication in the current literature on DC, despite its acknowledgement in the STM as an essential component of DC (Bodenmann, 1997).

**The role of the circumstances of the death**

Still not examined in the current research is how DC works beyond the simple indirect role. Additionally, it is unknown whether the importance of DC for the marital relationship of bereaved parents can be dependent of other variables. In a recent review, Albuquerque et al. (2016) identified the cause of death as an important factor that influences the parents' marital relationship. In a study of parents whose children died from violent deaths, there was a significant decrease in their marital satisfaction over time (Murphy, Johnson, Wu, Fan, & Lohan, 2003). Studies have also shown that deaths occurring in the gestational period involve different processes and difficulties for parents compared to those occurring after birth. Specifically, few memories of the child to use as a way of mourning, a sense of biological failure, and the difficulty of society to recognize the full extent of such a loss have been identified (Wallerstedt, Lilley, & Baldwin, 2003). Another variable that might be important to consider when examining DC in the context of parental bereavement is the child's age. It has been suggested that additional strains on the marital relationship exist when an adult child dies. Specifically, it has been found that bereaved parents of an adult

child (aged 25 years or older) were more likely to be divorced than non-bereaved parents (Rogers, 2005). Furthermore, it was suggested that deaths involving older children could be more stressful on marital relationships than infant deaths because attachment bonds were expected to be stronger (Rogers, Floyd, Seltzer, Greenberg, & Hong, 2008).

## The present study

Traditionally, in the bereavement literature, parents' adjustment to the death of a child has been examined from an individual perspective of stress and coping (e.g., Murphy, Johnson, Chung, & Beaton, 2003; Riley, LaMontagne, Hepworth, & Murphy, 2007; Videka-Sherman's, 1982). The interpersonal context in which parental grieving occurs, however, has been scarcely considered (Stroebe, Schut, & Finkenauer, 2013). This study, although based on cross-sectional data, which preclude causality, expands our understanding of the role of DC in relational adjustment to the death of a child via two objectives. First, we examined whether the association between grief response and dyadic adjustment was mediated by the specific forms of DC. Second, we examined whether the association between grief response and dyadic adjustment through DC was moderated by factors related to the circumstances of the child's death such as the type of death (e.g., natural vs. violent), timing of the child's death (before vs. after birth), and age of the child (younger or older than 18 years of age).

We hypothesized that the forms of DC would mediate the association between parents' grief response and dyadic adjustment. Specifically, we expected that the grief response would be negatively associated with stress communication both by oneself and by the partner, positive DC both by oneself and by the partner and joint DC, which, in turn, would be positively associated with dyadic adjustment. In contrast, we hypothesized that the grief response would be positively associated with negative DC both by oneself and by the partner, which, in turn, would be positively associated with dyadic adjustment. We also hypothesized that the indirect effect of DC enacted by the partner (negative or positive) and joint DC would be stronger compared to the other forms of DC. Moreover, we expected that these indirect effects would be moderated by the type of death, timing of death and child's age. In particular, we hypothesized that the protective role of DC would be diminished in parents whose children died violent deaths (vs. natural deaths) and in

parents of older children (vs. younger children). Regarding the timing of death, no conditional direct or indirect effects were hypothesized given that, despite literature claims that deaths occurring before and after birth involve different complexities, no specific comparisons were made.

## Methods

### Participants

Data were collected in a convenience sample of bereaved parents. The following inclusion criteria were applied: (1) having lost a child (of any age); (2) being married or cohabiting; (3) being at least 18 years of age; and (4) having the language and cognitive ability to complete the set of questionnaires. In the paper version, participants were asked to complete the set of questionnaires and to return them anonymously in a sealed envelope either to the health professionals or directly to the researcher (first author).

The final sample consisted of 197 married (86.3%) or cohabiting (13.7%) parents. Most of the parents were female (89.8%), with a mean age of 39.44 years (*SD* = 11.32; range: 18-79). The mean duration of the marital relationship was 16.70 years (*SD* = 11.95; range: 0-56).The duration of education ranged from 3 to 19 years (*M* = 13.41; *SD* = 3.89). Most of the parents were employed (59.9%) and had other children (71.1%).

The mean age of the deceased child was 8.96 years (*SD* = 12.35; range: stillborn-52 years; 26% above 18 years old), and the mean time since death was 2.76 years (*SD* = 2.34; range: 0.5-10). Furthermore, 59.4% of the deceased children were male. The causes of death included fetal death related to miscarriage or stillbirth (27.4%), illness (23.4%), accident (16.2%), neonatal death (16.2%), sudden death (7.6%), suicide (4.6%) and homicide (4.1%). For the majority of parents, the death was unexpected (81.2%). Most of the children died in the hospital (61.4%), whereas 17.3% died at home. The majority of parents were present at the time of the death (53.1%) and reported not having the opportunity to say goodbye to the child (56%).

## Measures

Parents' and child's sociodemographic data (e.g., age, sex) and information regarding the circumstances of the death (e.g., type of death, time since death, expectedness of death, place of death, presence and opportunity to say goodbye at the time of death) were collected by a self-reported questionnaire. The type of death was categorized into natural vs. violent deaths. Natural deaths consisted of natural anticipated losses and natural sudden losses (e.g., fetal death, illness, neonatal death, sudden death), and violent deaths consisted of deaths by accident, suicide or homicide. Regarding the variable timing of death, the different types of death were collapsed into two categories: before birth vs. after birth. In addition, participants completed the Portuguese versions of three self-reported questionnaires.

### Prolonged Grief Disorder Scale (PG-13)

The grief response was assessed with the PG-13 (Prigerson, Vanderwerker, & Maciejewski, 2007; Delalibera, Coelho, & Barbosa, 2011) on the basis of the diagnostic criteria for prolonged grief disorder (PGD). Eleven grief symptoms are assessed in relation to the previous month (e.g., *In the past month, how often have you had intense feelings of emotional pain, sorrow, or pangs of grief related to the lost relationship?),* including: 1) separation distress; 2) cognitive, emotional, and behavioral symptoms; and 3) impairment. Each of these items is answered on a 5-point scale ranging from 1 (*Never/Not at all*) to 5 *(Several times a day/Severe*) to represent increasing levels of symptom severity. The grief score was obtained by calculating the sum of the 11 symptom item scores (range: 11-55 points). The remaining two items related to the frequency and duration of symptoms and significant reduction in areas of functioning (e.g., social) were answered with "yes" or "no". In this study, the majority of the parents did not met the criteria for a diagnosis of PGD (67.5%). The Cronbach's alpha in the present sample was .93.

### Revised Dyadic Adjustment Scale (RDAS)

The dyadic adjustment was assessed with the 14-item RDAS (Busby, Christensen, Crane, & Larson, 1995). The RDAS is organized into three subscales: Dyadic Consensus (degree to which the respondent agrees with partner in decision-making, values and affection),

Dyadic Satisfaction (degree to which the respondent feels satisfied with partner), and Dyadic Cohesion (degree to which the respondent and the partner participate in activities together). Thirteen items are scored on a 6-point scale ranging from 0 to 5 and one item is scored on a 5-point scale ranging from 0 to 4. Higher scores indicate better dyadic adjustment. The total scores range from 0 to 69. The cut-off score for the RDAS is 48 such that scores of 47 and below are an indicator of marital/relationship distress (Crane, Middleton, & Bean, 2000). In this study, 52.8% of parents scored above the cut-off point. In the current sample, the Cronbach's alpha was .89.

### Dyadic Coping Inventory (DCI)

The DCI (Bodenmann, 2008; Vedes, Nussbeck, Bodenmann, Lind, & Ferreira, 2013) is a 37-item inventory that assesses DC, specifically (1) the perception of one's own coping (what I do when I am stressed and what I do when my partner is stressed); (2) the perception of the other's coping (what my partner does when he or she is stressed and what my partner does when I am stressed); and (3) the partners' views of how they cope as a couple (what we do when we are stressed as a couple). This inventory is organized into seven subscales: stress communication (by oneself and by the partner); positive DC (by oneself and by the partner) negative DC (by oneself and by the partner); and joint DC. The items are answered on a five-point scale ranging from 1 (*Very rarely*) to 5 *(Very often)*. The mean of the respective items serves as the subscales' total scores. Higher scores on the positive and joint DC subscales and lower scores on the negative DC subscales indicate better DC. In this study, all Cronbach's alphas were above .70, with the exception of the negative DC by oneself subscale ($\alpha$ = .67).

## Procedure

The present study is part of an ongoing research project entitled "Dyadic interdependence after a child's death: Influence of individual and interpersonal factors in individual and marital adjustment" which was approved by the ethics committees of the Faculty of Psychology and Education Sciences of the University of Coimbra and 24 hospitals. Participants were recruited between November 2013 and May 2015 through an online survey placed on the website of the host institution and through the participating hospitals. In the latter case, mental health professionals were asked to present the study to

bereaved parents in their care and either refer them to the website or give them a paper version of the set of questionnaires.

Both forms of the questionnaire (online and paper) had the respective informed consent attached. This document included detailed information about the study, inclusion criteria, and participants' and researchers' roles. Ethical considerations related to the confidentiality and anonymity of the answers and the possible risks associated with participation in the study (e.g., triggering of painful memories and emotions) were also addressed. Further ethical considerations that aimed to minimize the potential risks of the research process applied to efforts to prevent the participation of parents who had lost their child in the previous six months to avoid the crisis period (Stroebe, Stroebe, & Schut, 2003).

**Data analysis**

The data analyses were conducted using the Statistical Package for the Social Sciences (IBM SPSS, version 20.0) and the PROCESS macro for SPSS (Hayes 2013). Research suggests that the observations of both members of a given couple cannot be treated as independent (Kenny, Kashy, & Cook, 2006). Thus, when complete couples were included as separate observations in the individual-level data file, one member of the couple was randomly selected. All the study variables were checked for missing values and for the assumption of normality. Pearson's correlations were calculated to assess the associations between study variables. Given the high correlation between positive DC by the partner and joint DC ($r$ = .78, $p$ < .001), the forms of DC were entered as mediators (M) separately. Accordingly, seven simple mediation models were tested using model 4 (Hayes, 2013). In these models, grief response was the independent variable (X), whereas dyadic adjustment was the dependent variable (Y).

In addition, conditional process analyses were conducted to explore whether the indirect effect between grief response and dyadic adjustment through DC was moderated by the timing of death (before vs. after birth), type of death (natural vs. violent) or child's age (younger vs. older than 18 years of age). Because we were not able to formulate predictions regarding which path in a mediation process was moderated, as proposed by Hayes (2015), moderated mediation models were tested using model 59 (Hayes, 2013). In

these models, it was hypothesized that the moderator affected the path linking grief response and DC (*a*-path), the path linking DC and dyadic adjustment, after controlling for the effect of grief response (*b*-path), and the direct association between grief response and dyadic adjustment, after holding the mediator constant (*c'*-path; see Figure 1).

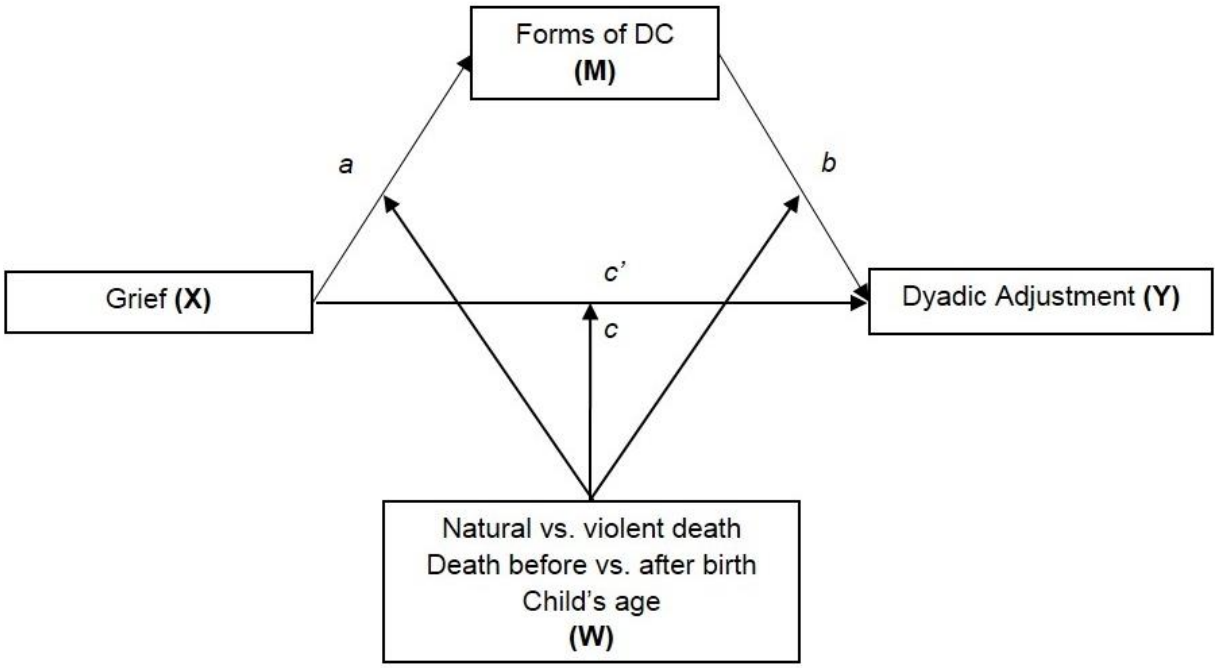


**Figure 1** I Conceptual diagram showing moderated mediator effects of the different forms of DC in the association between grief and dyadic adjustment. Moderators = natural vs. violent death; death before vs. after birth; child's age (younger vs. older than 18 years old).

A bootstrapping procedure was used to generate conditional indirect effects. Bias-corrected and accelerated confidence intervals (BCa CIs) were created to test for significance, as they adjust for any bias and skewness in the bootstrapped distribution. A 95% CI that does not contain zero indicates an effect that is significantly different from zero at $p < .05$ (Hayes, 2013). Bootstrapping is a nonparametric resampling procedure that does not require that the assumption of a normal distribution be met. Additionally, it has higher power, with reasonable control over the Type-I error rate through an appropriate control of the CIs. Following the recommendations of Preacher and Hayes (2008), significance was determined using BCa CIs with 5000 iterations. Prior to model estimation,

the variables that were used in the construction of the products were mean-centered (Aiken & West, 1991). All variables were transformed into z-scores to produce standardized regression coefficients. Preacher and Kelly's kappa-squared ($k^2$) was used as an estimate of the effect size of the indirect effects, which were interpreted using Cohen's guidelines (Hayes, 2013). Cohen (1988) defined small, medium, and large effect sizes as .01, .09, and .25, respectively. Given the recommendations of Fritz and MacKinnon (2007) and MacKinnon, Lockwood, Hoffman, West, and Sheets (2002) for mediation models, the sample size of this study was reasonably large to achieve adequate power (i.e., power of .80). In this study, post hoc power analysis for indirect effects revealed values nearby or above .80 (alpha < .05), a value that is considered adequate in Psychology (Cohen, 1990).

## Results

### Preliminary analyses

The descriptive statistics and Pearson's correlations for the study variables are presented in Table 1. Bivariate Pearson's correlations were calculated for study variables. Grief response was significantly and negatively associated with nearly all forms of DC. The exceptions were the positive association between grief response and negative DC (by oneself and by the partner) and the non-significant correlation between grief response and positive DC by oneself. Dyadic adjustment was significantly and positively associated with all forms of DC, except for negative DC (by oneself and by the partner). Excluding the association between stress communication by the partner and negative DC (by oneself and by the partner), all the mediator variables were significantly correlated and, therefore, were entered separately into the mediation model.

In addition, violent deaths were positively associated with grief response and negative DC by the partner and were negatively associated with dyadic adjustment and the remaining forms of DC. The association between type of death and negative DC by oneself was not significant. The timing of death was negatively associated with dyadic adjustment, stress communication by oneself and by the partner, positive DC by the partner and joint DC. The age of the child was positively correlated with grief response and negatively correlated with dyadic adjustment and joint DC (see Table 1).

**Table 1** I Descriptive statistics and Pearson's correlations for all of the study variables

| | Mean (SD) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Grief | 34.51 (12.36) | - | -.24** | -.18* | -.13 | .14* | -.20** | -.27*** | .29*** | -.35*** |
| 2. Dyadic adjustment | 46.02 (12.53) | | - | .41*** | .56*** | -.34*** | .29*** | .69*** | -.45*** | .74*** |
| 3. SCO | 3.10 (1.10) | | | - | .43*** | -.32*** | .27*** | .61*** | -.15* | .58*** |
| 4. PDCO | 3.50 (0.86) | | | | - | -.32*** | .37*** | .62*** | -.21** | .60*** |
| 5. NDCO | 1.86 (0.78) | | | | | - | .01 | -.36*** | .39*** | -.29*** |
| 6. SCP | 3.04 (0.99) | | | | | | - | .36*** | -.10 | .39*** |
| 7. PDCP | 3.20 (1.09) | | | | | | | - | -.40*** | .78*** |
| 8. NDCP | 2.19 (0.93) | | | | | | | | - | -.43*** |
| 9. Joint DC | 3.14 (1.13) | | | | | | | | | - |
| Type of death | - | .22** | -.30*** | -.20** | -.21** | .09 | -.17** | -.26*** | .18* | -.34*** |
| Timing of death | - | .11 | -.20** | -.15* | -.13 | .03 | -.15* | -.19** | .04 | -.18* |
| Age of the child | - | .23** | -.17* | -.08 | -.04 | .13 | -.05 | -.11 | .13 | -.27** |

*Note*. SCO = Stress Communication by Oneself; PDCO = Positive Dyadic Coping by Oneself; NDCO = Negative Dyadic Coping by Oneself; SCP = Stress Communication by Partner; PDCP = Positive Dyadic Coping by Partner; NDCP = Negative Dyadic Coping by Partner; Type of death (natural = 0; violent = 1); Timing of death (before birth = 0; after birth = 1); Age of the child (younger than 18 years old = 0; older than 18 years old = 1).

* $p < .05$; ** $p < .01$; *** $p < .001$

### Testing the mediation models

The results revealed a significant total effect ($b$ = -.24, $p$ = .002), accounting for 5.8% variance ($R^2$ = 0. 058, $F$(1,195) = 10.36, $p$ = .002), and significant direct effects of parents' grief response on dyadic adjustment controlling for the effect of stress communication enacted by oneself ($b$ = -.17, $SE$ = .07, $p$ = .012) and by the partner ($b$ = -.20, $SE$ = .08, $p$ = .011), and positive ($b$ = -.17, $SE$ = .07, $p$ = .008) and negative DC by oneself ($b$ = -.20, $SE$ = .08, $p$ = .010). No significant direct effects were found controlling for the association with positive DC by the partner ($b$ = -.06, $SE$ = .05, $p$ = .238), negative DC by the partner ($b$ = -.12, $SE$ = .07, $p$ = .104) and joint DC ($b$ = .02, $SE$ = .05, $p$ = .654).

Significant indirect effects of parents' grief response on dyadic adjustment were found through stress communication enacted by oneself ($b$ = -.07, $SE$ = .03, 95% CI -.13/-.02, $p$ = .027, $k^2$ = .07, power = .73) and by the partner ($b$ = -.05, $SE$ = .02, 95% CI -.11/-.01, $p$ = .039, $k^2$ = 0.05, power = .75), positive DC by the partner ($b$ = -.18, $SE$ = .05, 95% CI -.29/-.08, $p$ < .001, $k^2$ = .20, power = .97), negative DC by the partner ($b$ = -.12, $SE$ = .04, 95% CI -.21/-.06, $p$ = .002, $k^2$ = .12, power = .99) and joint DC ($b$ = -.26, $SE$ = .06, 95% CI -.38/-.15, $p$ < .001, $k^2$ = .30, power = 1.00). Specifically, the results indicated that lower levels of grief response were negatively associated with higher stress communication by oneself and by the partner, positive DC by the partner and joint DC, which, in turn, were associated with higher dyadic adjustment. In addition, lower levels of grief response were associated with lower negative DC by the partner, which, in turn, was associated with higher dyadic adjustment (see Figure 2). No significant indirect effects were found through positive ($b$ = -.07, $SE$ = .04, 95% CI -.17/.01, $p$ = .114, $k^2$ = .07, power = .46) and negative DC by oneself ($b$ = -.05, $SE$ = .03, 95% CI -.12/-.005, $p$ = .089, $k^2$ = .05, power = .51).

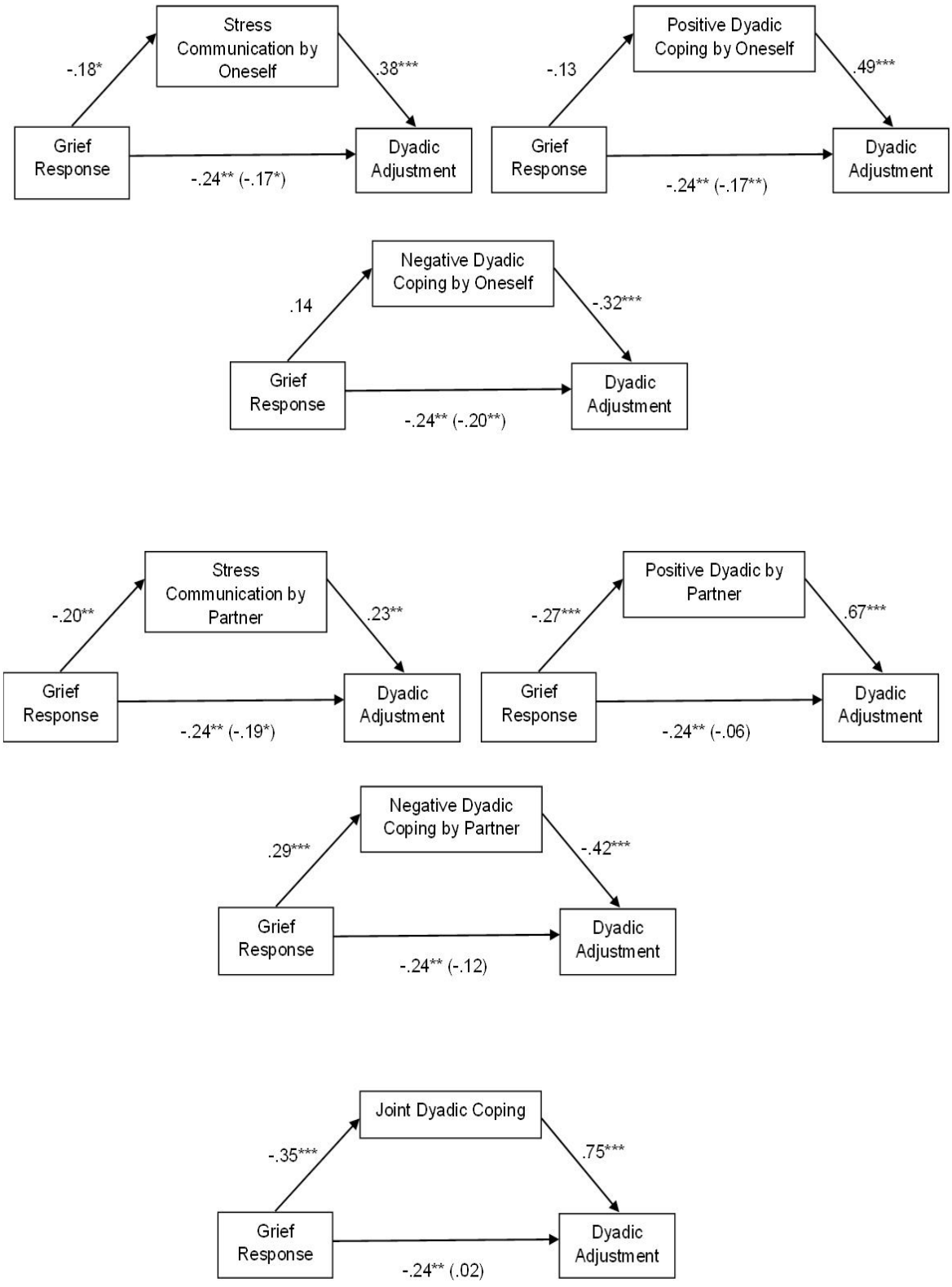


**Figure 2** I Conceptual diagram showing multiple mediator effects of dyadic coping in the association between grief and individual and dyadic adjustment. *Note*: Path values represent unstandardized regression coefficients. * $p < .05$; ** $p < .01$; *** $p < .001$

### Testing the moderated mediation models

To examine whether the association between grief response and dyadic adjustment through the forms of DC was moderated by the timing of death (deaths occurring before vs. after birth), type of death (natural vs. violent deaths) and child's age (younger vs. older than 18 years of age), moderated mediation models were tested. A significant interaction was found between the timing of death and grief response in the direct effect (*c'*-path), after holding stress communication by oneself ($b$ = -.30, $p$ = .025), positive DC by oneself ($b$ = -.30, $p$ = .018), negative DC by oneself ($b$ = -.27, $p$ = .046), stress communication by the partner ($b$ = -.29, $p$ = .034) and negative DC by the partner ($b$ = -.29, $p$ = .027) constant. Inspection of the conditional direct effects at different levels of the moderator (deaths occurring before vs. after birth) showed that the grief response was negatively associated with dyadic adjustment in the models including stress communication by oneself ($b$ = -.24, $p$ = .004) and by the partner ($b$ = -.25, $p$ = .007), as well as positive ($b$ = -.24, $p$ = .003) and negative ($b$ = -.24, $p$ = .008) DC by oneself for deaths that occurred after birth, whereas the association between grief and dyadic adjustment was not significant for deaths that occurred before birth.

A significant interaction was also found between the timing of death and joint DC in the *b*-path ($b$ = .10, $p$ = .030). Inspection of the conditional indirect effects showed that there was a significant indirect effect between grief response and dyadic adjustment through joint DC for deaths that occurred both before ($b$ = -.19, 95% CI = -.37/-.05) and after ($b$ = -.27, 95% CI = -.43/-.13) birth. However, the association was stronger in the latter.

Neither the direct nor the indirect effects of grief response on dyadic adjustment were moderated by the type of death and the child's age. No significant interactions were found between the type of death and child's age and grief response in the *a*-path as well as between these moderators and DC in the *b*-path. Similarly, no significant interactions were found between the type of death and child's age and grief response in the direct effect.

## Discussion

The aim of the present study was to examine whether the association between grief response and dyadic adjustment was mediated by the specific forms of DC and whether the circumstances related to the death of the child (type, timing and child's age) moderated this association. This study extends previous DC literature in several ways. First, it includes a sample of bereaved parents, who have not been examined in the past. Second, and in a more complex domain, this study tests the complete DC model with all its components, taking into account the different effects of diverse death circumstances. Our main findings present evidence of the significant indirect effect of parents' grief response on dyadic adjustment through DC. Overall, this finding of an indirect effect of DC is consistent with other studies that examined the association between specific forms of DC and dyadic adjustment (for a review, see Falconier et al., 2015).

The assumption that support provided within intimate relationships has special value (e.g., Martin et al., 2009) also seems to be true for parents who have lost a child. Our findings showing that positive DC by the partner can function as an important marital resource in parents' dyadic adjustment are in line with existing literature on different samples, including a recent study of couples facing the husband's prostate cancer that found a link between this form of DC and relationship satisfaction (Regan et al., 2014) and a longitudinal study linking DC and marital quality over 2 years (Bodenmann et al., 2006). The reliance on partner support might also occur as a result of perceiving the partner's unique ability to empathize truly with the experience, given that he or she is going through the same loss. Therefore, the partner might be considered as the most well-equipped person to provide support (e.g., Rosenblatt, 2000). The use of positive DC by the partner also contributes to the construction of a positive cognitive representation of the partner, with attributions of helpfulness and trustworthiness. This representation might increase the likelihood of assessing the partner as someone who is trustworthy, close and supportive and sensing that the relationship is comforting and caring (Bodenmann et al., 2006), thereby explaining the mediating role of this form of DC in relation to dyadic adjustment.

Our findings showing that stress communication (by oneself or by the partner) can function as an important and positive marital resource in parents' dyadic adjustment are supported by recent research showing that marital quality is higher in couples in which there is greater communication about stress (Regan et al., 2014) and that positive and open communication is a key factor in sustaining a functional and healthy marriage during bereavement (Song et al., 2010). Moreover, research on bereaved parents has indicated that if parents know more about their partner's thoughts and feelings, it would be easier for them to be supportive (Rosenblatt, 2000).

The protective role of joint DC in dyadic adjustment that we found in this study is consistent with prior research on other samples (e.g., couples facing cancer), which reported an association between this form of DC and relationship variables (Bodenmann et al., 2006; Regan et al., 2014). This is particularly relevant, as bereaved parents' grieving is an inevitably shared experience that parents face together (Rosenblatt, 2000). Bodenmann's STM (1997) predicts that joint DC occurs when the stressor affects both partners, typically at the same time, and when both partners perceive that their own personal resources might contribute to the coping process. The prioritization of the well-being of both partners and of the relationship, along with the appraisal that the stressor concerns both partners (Donato, Iafrate, Bradbury, & Scabini, 2012), might explain why joint DC is an important mechanism through which the negative association between grief response and dyadic adjustment decreases.

Despite our findings suggesting that partners' efforts (together or towards the partner) to engage in positive DC strategies constitute a particularly relevant mediator, we also found an indirect effects through negative DC (by the partner) on dyadic adjustment. Negative DC is likely to occur when stress is high and the individuals' resources are lacking (Cutrona & Gardner, 2006). The fact that bereaved parents might both be experiencing individual emotional distress, as previously suggested (Wijngaards-de Meij et al., 2005), might make them more prone to engage in negative behaviors towards their partners. This, in turn, would negatively impact their relationship, as was confirmed by the indirect effects between grief response and dyadic adjustment through negative DC by the partner found in this study. The fact that this form of DC might have a role in this association emphasizes the importance of attending to the impact not only of the positive aspect of partner's

support but also of unsupportive partner's behavior (e.g., Manne, Taylor, Dougherty, & Kemeny, 1997).

The timing of death was found to be a moderator of the direct effect in the tested mediation models. Specifically, a significant negative association between grief response and dyadic adjustment was found for deaths that occurred after birth only. This finding is consistent with previous evidence showing that deaths before and after birth involve different processes and difficulties (Wallerstedt et al., 2003). There were also significant conditional indirect effects through joint DC when the death occurred both before and after birth, although the effect was stronger for the latter. A possible explanation for this stronger association with joint DC when the death occurred after birth might pertain to the longer length of these parents' relationship compared to that of parents whose child died in the perinatal period, who have a shorter-term relationship. In fact, prior literature has shown that long-term relationships might have better foundations for DC (e.g., shared appraisal of events/stressors, more effective use of collaborative forms of involvement), as they are often of higher quality and more satisfying (Berg & Upchurch, 2007).

In sum, our findings suggest that specific forms of DC represent possible (and important) underlying mechanisms of the association between grief response and dyadic adjustment for different circumstances of the child's death, particularly the timing of death. These findings also underscore the importance of assessing both grief response and DC together to develop a comprehensive framework for understanding dyadic adjustment in bereaved parents.

**Limitations and strengths**

This study is not without limitations. Due to the study's cross-sectional design, which resulted in a mediation analysis without a manipulated variable, causal inferences cannot be drawn. In this context, longitudinal data would be particularly informative because DC might evolve over the course of parents' adjustment to the death of a child. The study sample size was relatively small, and the response rate is unknown, which limits the generalizability of the findings. The overrepresentation of women compared to men, which is common in the relevant literature, limited our analysis of sex as a moderator and the potential to examine whether the mechanisms reported herein are similar for mothers

and fathers in the grieving process after the death of a child. Another limitation relates to the lack of use of couples and the consequent absence of the partner's perspective (the results of DC were based only on the perceptions of one member of the couple), despite our efforts to include the partners of female participants (e.g., all mothers were asked to inform their partner of the study and to reinforce the importance of participation). This limited our understanding of the association between grief response and DC and compromised the test of the mutual influence and interdependence within the dyad (actor-partner effects), which are important components of DC (Bodenmann, 2005). However, it has been shown that perceptions tend to be reasonably accurate accounts of behaviors (Hobfoll, 2009), substantiating the value of the focus on perceptions. To overcome this limitation, future studies with the couple as the unit of analysis would be valuable. In this study, for simplicity and conceptual coherence, we selected as moderators only variables that referred to the child's characteristics or the circumstances of death. However, additional consideration of other variables (e.g., parent-related variables) that might change or affect the pattern of DC would also be of value. Additionally, all measures were self-reported and, therefore, subject to the bias that is inherent to this type of assessment (e.g., social desirability). Moreover, the online component of the study required some participant conditions such as their being computer-literate, having a connection to the Internet and not responding more than once. This online component might also be a strength, primarily because research suggests that social desirability is minimized in online studies, especially when they address sensitive topics, compared to the traditional use of pen-and-paper questionnaires (Turner et al., 1998). However, in this study, no differences were found in the study variables between participants who completed online and paper-based questionnaires. Finally, because the research that explores DC in the context of the death of a child is currently preliminary, qualitative studies might also be particularly relevant. These studies might help to reveal the complex processes of coping together with such a shared event and might shed additional light on the role of specific DC strategies in parents' adjustment, both as individuals and as a couple.

Despite these limitations, this study presents important strengths and innovative contributions to the existing knowledge, both theoretically and empirically. This study

examines DC in the context of bereaved parents and explores the role of the specific forms of DC. These aspects have seldom been considered in the DC literature. Few studies have documented the unique associations between the different forms of DC and dyadic adjustment in a context of adversity that is likely to affect marital relationships profoundly. Furthermore, this study makes an important contribution to the grief literature by providing additional insights into the potential mechanisms through which grief response is associated with dyadic adjustment and by providing information on the differences in these associations in groups with diverse circumstances relating to the child's death.

**Clinical implications**

The results of this study can also be valuable to informing clinical practice with bereaved parents. In general, the negative association between grief response and dyadic adjustment was attenuated by DC, which reinforces the role of the partner and supports DC-promoting interventions in improving parents' individual and relational outcomes through more efficient mutual support within the relationship. In this context, it is important not only to foster existing forms of positive DC and joint DC but also to develop new ones. For example, promoting couples' communication about their individual needs might be of primary importance to discuss new and creative positive and joint DC behaviors conjointly. In addition to promoting these adaptive forms of DC, considering the negative forms (e.g., hostile DC) might also be beneficial for bereaved parents. Conflicts within the marital dyad reportedly result from the lack of energy needed to focus on the partner, given the intensity of one's grief (Rosenblatt, 2000). However, plausible, conflictual interactions should not be disregarded by health care providers, and after an adequate evaluation, referrals for appropriate services should be made. Therapeutic goals targeting a decrease in maladaptive forms (e.g., hostile DC) might include improving couples' ability to identify negative DC behaviors and to modify their interactions accordingly.

Finally, regardless of the value of the data reported herein to inform clinical practice, the examination of the efficacy of DC-promoting interventions remains important. Clinical trials or treatment-outcome studies that examine interventions aimed at improving the DC of bereaved parents might help to establish the optimal focus of treatment and advance the practical applications of this line of research. Doing so will be of major importance,

primarily due to the detrimental effects that the death of a child can have on the parents not only individually but also as a couple.

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# Empirical study III

## Parents' positive interpersonal coping after a child's death

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# Parents' positive interpersonal coping after a child's death

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**Abstract**

Despite the challenging context of grieving for the death of a child, evidence shows that it is possible for parents to manage and preserve their relationship. The aim of this study was to examine parents' perceptions of positive interpersonal coping processes that helped their relationship after the death of their child. Individual semi-structured interviews with 17 bereaved maritally committed parents were conducted. The interview guide included questions covering themes such as parents' coping together, relationship strengths and mutual support. Data were analyzed through constructivist grounded theory methods. Three main themes were identified: search for meaning (reframing of partners' different coping processes and the changes/difficulties in the relationship, and development of shared beliefs); communication with the partner (direct and indirect feedback, and mutual learning); and care-in-relation (caring for the partner and the relationship). Dyad-level interventions should aim at promoting mutual empathy, development of shared appraisals, and the identification and consideration of each other's boundaries.

**Keywords:** bereavement; death of a child; marital relationship; coping; mutual support.

## Introduction

When a child dies, parents are confronted with the need to address both the changes in themselves as individuals and in the relationship with their partners (Rosenblatt, 2000). The death of a child can lead to marital distress and divorce (Lyngstad, 2013; Rogers, 2005), however, there is also evidence of resiliency in parents' relationship. Research has shown that not only marriages can survive the death of a child, but that this loss may even contribute to parents' greater cohesion and strengthening of their relationship (Bergstraesser, Inglin, Hornung, & Landolt, 2015; Paley, 2008; Rellias, 2001). Also, there is evidence on the importance of marital support to both the individual and relational adjustment of bereaved parents (Lang, Gottlieb, & Ansel, 1996; Song et al., 2010).Therefore, the question of how parents successfully manage to preserve and maintain their relationship gains particular importance.

Because parents grieve simultaneously and frequently differ in their expression of grief (Schwab, 1996), parents must work through grief in a manner that is comfortable for them as individuals, while simultaneously considering the effects of their actions on the marital bond (Rogers, 2005). This balance between the self and the other is highlighted in the work of Bodenmann (2005), which argues that coping within the couple involves a commitment of both partners to ensure each partner's satisfaction and well-being, as well as to guarantee the adaptive functioning of the couple as a whole.

One relevant concept in individuals' interpersonal coping realm is dyadic coping (DC), broadly defined as process involving both partners and as the interplay between the stress signals of one partner and the coping reactions of the other (Bodenmann, 2005). The conceptualizations of DC include systemic–transactional dyadic coping (Bodenmann, 2005), empathic coping (DeLongis & O'Brien, 1990) and relationship-focused coping (Coyne & Smith, 1991). In these three conceptualizations, positive forms of DC are considered.

In the systemic–transactional model (STM; Bodenmann, 1995, 2005), DC involves not only partners' behavioral strategies employed to reduce stress but also appraisal processes of each other's stress. DC is activated when one partner's appraisal of stress is communicated to the other, who then responds with either positive or negative coping strategies in an

attempt to assuage his or her partner's feelings of stress (Bodenmann, 2005). Positive responses include one partner showing understanding and being supportive or both partners engaging in a joint problem-solving discussion. DeLongis and O'Brien (1990) underline DC as the balance between self and other, with the goal of maintaining the integrity of the marital relationship above either partner's needs. According to these authors, the main concept of this model involves attempts to perceive the emotional experience of the partner (empathy), compromising and accommodating to partner's coping methods. The relationship-focused coping model (Coyne & Smith, 1991) highlights as a positive forms of DC the active engagement and protective buffering. Active engagement consists of the efforts of one partner to involve the other in a discussion and explore his or her emotions to initiate constructive attempts to solve problems. Protective buffering refers to relieving the partner emotionally and to avoiding disagreements by managing one's distress, for example, by minimizing worries, suppressing anger, or giving in.

Regarding empirical evidence, traditionally, research has focused primarily on individual factors rather than on relational factors associated with adjustment to a child's loss (Stroebe et al., 2013). Though studies have considered the interpersonal context of grieving for the death of a child, the knowledge on how parents cope together with this event is still incipient. Studies investigating how parents navigate their lives together after the death of their child have reported that parents experience tensions between being open vs. being closed when deciding to talk with their partner and between grieving together vs. grieving individually (Hooghe, Neimeyer, & Rober, 2011; Toller & Braithwaite, 2009).

In addition, studies have elaborated on several engaging patterns of interaction and their positive association with dyadic adjustment. For example, couples' rituals (through which parents maintain the bond to their child), sharing of emotions, openness, and mutual under-standing as key factors in sustaining functional and healthy marriages during bereavement and perceiving the relationship as positive (e.g., Bergstraesser et al., 2015; Paley, 2008; Rellias, 2001; Toller & Braithwaite, 2009). Moreover, parents' respect for their individual grieving needs (Toller & Braithwaite, 2009) and flexibility in the relationship (for

example in sharing of emotions) (Paley, 2008; Rellias, 2001) have been shown to be important couples' coping processes.

Finally, given its resemblance with the concept of protective buffering stressed by Coyne and Smith (1991), the Partner-Oriented Self-Regulation (POSR), recently examined in a longitudinal study by Stroebe et al. (2013), is also notable. POSR refers to the attempts to protect the partner by regulating one's own emotions (avoidance of talking about the loss of the child and remaining strong in the partner's presence). This process was found to be detrimental for the couple, as it was associated with greater grief for both the individual and the partner (Stroebe et al., 2013)

Most of the existing research on interpersonal coping with adversity has focused particularly on contexts of illness, such as chronic health conditions (for a review, see Berg & Upchurch, 2007). Interpersonal coping in the context of the death of a child warrants further exploration. Because the loss of a child constitutes a serious risk factor for marital difficulties (Lyngstad, 2013), empirical descriptions of how bereaved parents successfully cope together with such a traumatic event are especially important in understanding bereaved parents' interpersonal coping in all its complexity and uniqueness. Additionally, a thorough knowledge of parents' positive interpersonal coping efforts can contribute to the reinforcement and optimization of the natural support system for the bereaved parents, that is, their relationship with their partner. This knowledge has been highlighted as particularly important in directing the couple and the parents individually down a restorative pathway (Kissane et al., 2006). Therefore, it is important to explore parents' individual perceptions of how they protect their relationship and also of how they perceive their partner's efforts to protect their relationship. The present study aimed to do so, by examining parents' perceptions of positive interpersonal coping processes that helped their relationship after the death of their child. The qualitative nature of this study also holds particular value: by using parents' voices as a starting point, this approach enabled an in-depth examination of the parents' unique coping behaviors and appraisal processes in relation to each other.

## Method

### Participants

The participants of this study (*N* = 17) were four married couples and nine mothers. All parents were married or cohabiting. Parents' mean age was 45.18 years (*SD* = 10.46; range: 27–65), and they were married or cohabiting for an average of 23.14 years (*SD* = 13.10; range 3-45). Parents were on average college educated (*M* = 13.29 years of education; *SD* = 3.87; range: 5-19), and with the exception of three parents, all were employed and had other children. The deceased child's mean age was 11.38 years (*SD* = 11.68; range: 0 (stillborn) – 30), and the time post-death was on average of 6.56 years (*SD* = 4.15; range: 10 months – 14 years). Twelve deceased children were male, and six died from illness, four died from neonatal death or accident, two died from sudden natural death and one died from homicide. Twelve parents perceived the death of the child as an unexpected event. Eleven parents were receiving or had received psychological support and nine were receiving or had received support from other bereaved parents (e.g., in bereavement parents groups).

### Procedures

Participants of this study were enrolled within a wider research project on parental individual and marital adjustment after the death of a child. The ethics committees of the host institution and participating hospitals approved the study.

Participation in the first phase of this project involved the completion of an online survey made available on the website of the University of Coimbra. The introductory page of the survey provided all the necessary information to make an informed decision about participating in the study, particularly the aims of the study, the inclusion criteria and participants' and the researchers' roles. Ethical considerations related to confidentiality and anonymity of the answers were also provided in the introductory page. In this survey, parents were invited to participate in the second phase of the research project (qualitative study). Parents who indicated interest provided their contact information. The inclusion criteria for participating in the second phase of the study were as follows: (1) the death of one child; (2) being married or cohabiting; (3) the death of the child having occurred 6 or

more months prior (to avoid the crisis period) (Stroebe, Stroebe, & Schut, 2003); and (4) being at least 18 years of age. No maximum limit regarding time after death and children's age was defined for this study. Eligible parents were contacted by email by the first author, followed up by a telephone call to clarify any questions regarding the study's aims and procedures, to ascertain the parents' interest in participating in the study, and to reinforce the ethical considerations. Seventeen bereaved parents who were contacted by email agreed to participate in the study. Participants received no compensation for their participation.

Because of the sensitive nature of the theme, careful attention was given to strategies for minimizing parents' distress (for a review on ethical considerations with bereaved parents' research, see Albuquerque, Pereira, & Narciso, 2016). All parents were interviewed individually at a place of their choice (which was most often their homes), and the interviews were conducted by the first author, a researcher with clinical experience in bereavement. Before proceeding with the interview, interview-specific written informed consent was obtained and participants were informed that they had the right to withdraw or refuse to answer any questions at any point during the interview. Permission for audio recording of the interview was also obtained. After the interview, parents were encouraged to contact the interviewer in case they needed any information regarding grief support organizations.

**Measure**

Data were collected through in-depth semi-structured interviews over a period of four months. Interviews lasted on average 90 minutes (range: 40 minutes-3 hours). To minimize the chances of participants concealing pertinent information that could potentially hurt partners' feelings and to improve our chances of gathering information provided with authenticity and depth, all the interviews were conducted individually (e.g., Eisikovits & Koren, 2010). The interview script included the following three main topics on parents bereavement experience related to the parents individually, the couple's relationship or the broader social context: (1) perceived impact of the death of the child (e.g., "What changes have you identified in your marital relationship as well as in the relationships with other people after the death of your child?); (2) factors associated with individual and

marital adjustment to the death of the child (e.g., "Which aspects do you believe to have contributed to your marital adjustment to this event?"); and (3) parents' needs regarding social, partner's or institutional support (e.g., "Which needs have you felt regarding your relationship with your partner and with others?"). In this study, we focused specifically on the data related to the couple's coping after the death of the child, addressed by questions such as "How do you cope as a couple with the death of a child?"; "What helped you as a couple after the death of your child?"; "What helped your relationship after the death of your child?" "What constitutes the main strengths in your relationship?"; and "How do you support each other throughout this ordeal?". Initial answers were probed for more details (e.g., "Could you elaborate"; "Could you give specific examples?"). Near the end the interview, parents were also inquired about the comprehensiveness of their experience (Would you like to add something regarding what helped you as a couple after the death of your child?).

**Data Analyses**

In this study, constructivist grounded theory (CGT) was used as the main method-logical strategy for data analysis (Charmaz, 2006). Grounded theory seeks to construct theory through an inductive process of data collection, in which new information is created from the data instead of testing theory-derived hypotheses (Gibbs, 2008). CGT adopts novel characteristics such as the importance given to context and the role of the researcher in the construction of the theory (reflexivity) and the existence of previous knowledge on the subject (for a review, see Albuquerque et al., 2016).

The analysis was conducted by one coder (the interviewer) and three consultants. Following the suggestions of Levitt (2015), we chose the interviewer as the sole coder given the direct access to participants' words, attitudes and self-presentation. This makes the interviewer best prepared to: (1) develop a close connection with the data; (2) conduct an analysis highly consistent with the participants' experiences; and (3) advance the understanding of the experience, by recognizing other meanings absent when only transcripts are used.

The interviews were audio-recorded and transcribed *verbatim* in Portuguese. Data were coded, questioned and analyzed in detail in Portuguese, supported by QSR NVIVO 10

software. Analysis of interview transcripts began with initial coding, in which an initial set of codes was generated by close examination of fragments of data (lines, segments and incidents). We then used focused coding to explore similarities and differences between codes and to group them into larger conceptual themes or categories. Finally, we examined how these categories related to each other, which allowed us to transform categories into subcategories and to identify broader thematic categories based on the data (axial coding) (Charmaz, 2006). The steps followed in the data analysis were not strictly sequential. Instead, we moved forward and backward constantly, reexamining data, codes, and categories. Data collection and coding were concluded when all codes and relationships were substantiated by the data and no new insights emerged, therefore achieving data saturation. Throughout the analysis, it was necessary to return to the data for constant comparison of differences and similarities among themes. Theoretical sampling was used. Decisions on which data would be gathered were based on provisory theoretical assumptions.

Quality checks were based on Lincoln and Guba's (1985) trustworthiness criteria of credibility and transferability. Regarding credibility – confidence in the truth of the findings – three main strategies were used: memoing, theory triangulation and regular debriefing meetings. Memoing consisted on note-taking in order to record the associations among the clustered units of data, emerging theories hypothesis, methods used and the coder's possible personal biases upon the data. Theory triangulation consisted on using multiple theoretical perspectives (e.g., multiple models of dyadic coping) to examine and interpret the data. In the final stage of the analysis, we reflected on how the emerging issues and ideas did or did not match current knowledge. This was performed at the last phase of the analysis, so that the results were the most illustrative of the participants' voices as possible, without being biased with past knowledge. Regular (typically weekly) debriefing meetings of the research team provided a forum for evaluating emerging themes, discussing alternative approaches, and whether research objectivity was being threatened by the coder's personal viewpoints, all the time seeking to come to a common and agreed understanding of the findings. Other strategies included the adoption of a well-established research method (constructivist grounded theory) and peer scrutiny of the research project, namely at conferences presentations. As well, an initial telephone call was

placed in order to develop an early familiarity and to establish a relationship of trust with the participants. Finally, iterative questioning and an interview check using questions to determine whether or not the participants experience was fully represented were also used. In relation to transferability, which consists on readers' applicability of the findings to their own contexts, this was ensured through a rich description of the findings and advance in information both for clinicians and general population (e.g., other bereaved parents).

## Results

Throughout the results section, to present a relative indicator of category saturation, categories are presented followed by brackets illustrating the number of participants coded. Participants' quotes are identified by a letter representing gender (F–Female and M–Male), a number representing the age of the participant, and a number representing the time post loss. For example, the identifier "M, 32y, 7m" indicates a quote by a 32-year-old male who had lost his child seven months ago.

Throughout the analysis of the processes of parents' interpersonal coping, three categories emerged based on saturation level: Search for meaning [17]; Communicating with the partner [13]; and Care-in-relation [13]. A summary of the main categories and codes is presented in Table 1.

**Table 1** I Summary of the main categories and codes

| **Categories and codes** | |
|---|---|
| **Search for meaning** | |
| Reframing partners' different timings in coping and grief | Search for meaning in partners' behaviors<br>Positive reframing of different timings in coping |
| Individual reframing regarding the relationship | Relationship difficulties as temporary and normal<br>Relationship as a commitment |
| Co-constructing meaning for their life: Developing shared beliefs | Converging on views about their future<br>Converging on views about their life<br>Converging on views about their child |
| **Communication with the partner** | |
| Direct feedback | Giving and demanding information from the partner on his/her emotional state, difficulties and needs |
| Indirect feedback | Non-verbal communication<br>External resources: spirituality; bereaved parents group session |

| | |
|---|---|
| Learning from each other | |
| **Care-in-relation** | |
| Care-in-relation in mutual support | Demanding and giving support |
| | Search of external support |
| Care-in-relation in conflict management | Ability of avoiding or recovering after the conflict |

### Search for meaning

Parents referred to engaging in an individual search for meaning, which consisted in reframing partners' different coping and grieving mechanisms [13] and reframing changes/difficulties in the relationship [9]. In addition to the individual meaning searching processes, parents also reported the notion of co-constructing meaning for their life together [11].

#### Reframing partners' different coping and grief

Regarding this topic, two coping strategies were identified: search for meaning in partners' behaviors [9] and positive reframing of differences in timings of coping [6].

*Search for meaning in partners' behaviors*

Parents engaged in cognitive efforts to search for underlying mechanisms and contributing factors for their partner's different coping processes and needs. Parents most frequently attributed their partner's different needs and behaviors, such as not wanting to talk about the child or not wanting to go to the cemetery, as self-protection coping mechanisms [7]: "He could not hear the name of our child at home (…) Today I realize that he was running away from it all (…) It was an escape" (F, 44y, 7y). This reappraisal was important because it appeared to allow participants to perceive partners' behaviors as a way to self-protect and not as having an intention of being hurtful, therefore contributing to protecting the relationship. Other less salient explanations were also found to contribute to the differences within the couple, such as personality characteristics [5], strong affective bonds with the child [2], beliefs on social roles regarding maternity [2], and past grief experiences [1].

Parents' narratives suggested that they were able to suspend immediate appraisals and

assumptions and investigate the meaning behind their partner's behavior. Reframing partner's behavior as being related to uncontrollable factors (e.g., their particular way of coping or lack of acquired resources in dealing with grief) enabled understanding and empathy regarding partners' possibly avoidant, hostile or hurtful reactions, therefore constituting an important aspect of parents' coping with the loss of a child.

*Positive reframing of different timings in coping*

Parents identified benefits gained from the different timings in needs and coping efforts [6]. For example, one father mentioned how important it was that at least one of them was stabilized enough to be able to support the other: "Since my daughter died till now, we have never been downhearted at the same time. There is always one of us who is a little better and can pull the other up" (M, 32y, 7m). This was also referred by his wife: "We end up helping each other a lot so when I'm down, he comes to me and helps; when it's him, I do the same and we end up pulling ourselves up" (F, 27y, 7m). Taking turns in making emotional contact is emphasized here as an important interpersonal coping mechanism among parents. Grieving intensely at the same time might lead to intensification of suffering. Therefore, parents perceive that it is important in supporting the partner that one is not so overwhelmed by his/her grief.

Parents also benefited from having different timings of coping and grief when facing obligations in other domains of their lives. If one partner was incapacitated and unable to respond in his or her normal fashion, the other partner stepped in. Frequently, this role trade targeted routine tasks that were part of a normal family routine, such as child care, household tasks, and normal errands: "My husband is more pragmatic than I am, and he returned more quickly to the things of the day-to-day life" (F, 52y, 13y). Hence, benefits involved a function of complementarity, and parents experienced their differences as strengths.

**Reframing regarding the relationship**

Regarding the reframing related to the relationship, two main themes emerged: reframing relationship difficulties as temporary and normal [8] and the relationship as a commitment [5].

*Relationship difficulties as temporary and normal*

Reframing the relationship's difficulties as temporary included the identification of the passage of time as an important factor for restoring the partner individually and, consequently, of providing support for the partner: "I support my wife 'try to see things this way, not like that', and sometimes I can help her gain a new perspective. But the reality is that only time will somehow repair" (M, 41y, 6m). This father's wife attested his reframing of marital difficulties as temporary: "It takes time, we live another life, another other way of being here… we respect each other's ways and hope that with time it will pass" (F, 39y, 6m).

Also related to this theme was the perception of the positive evolution of communication and support within the relationship, the acknowledgement that the couple's adjustment is a process that takes time – "Little by little we are starting to communicate with each other" (F, 44y, 7y) – and hope and confidence in restoring the relationship. The reframing of relationship difficulties also involved efforts to normalize the struggles, namely regarding conflicts – "Sometimes there are things that are not quite what we wanted, but that is the normal couples' things... people also cannot live 365 days in a harmonious way" (F, 44y, 7y) – and sexual difficulties – "It was hard for me, but I knew that it was normal (…); it will happen when it has to happen" (F, 32y, 16m). Certain cognitive efforts such as normalizing relationship difficulties and believing in the restoration of the marital relationship and looking at it as a process were associated with parents' commitment to their relationship and to each other.

*Relationship as a commitment*

Underlying the reframing efforts, there was a strong sense of commitment to their marriage, to support their partner, despite all the struggles: "There can be a year when you cannot have a relationship, but people are there, are present and the important issue is to bear that period where there are no conditions for anything" (M, 48y, 2y). For this father, it was patent a sense of bearing the hard times and hope in the future of the relationship. Another father associated commitment in the relationship with love: "If you love, you have to be there" (M, 53y, 10y). This father's wife also highlighted her commitment to support him: "I had to find strengths to help my husband" (F, 53y, 10y). Inherent to the sense of

commitment in parents' narratives was a genuine concern and feelings of responsibility for partner's and relationship's wellbeing.

Parents explained that the partner was the best person to support them because he/she was the only one that could truly empathize with their experience [3]: "There is one thing we have together, we share and we have the same feeling. We understand perfectly well the pain of each other. I know that I fully understand his pain, just like he completely understands mine" (F, 48y, 2y). Parents perceived each other as experts of each other's pain, and there was a sense of uniqueness in mutual empathy regarding understanding each other's grieving experience. Even if they could not grieve together and have the same relationship as before the loss, parents were dedicated to be present and available. Reframing and committing to enduring hard times enabled them to respect each other needs, stay connected and support each other.

### *Co-constructing meaning for their life: Developing shared beliefs*

Parents' need to believe that they hold a shared view appears to be strong. In particular, parents discussed the importance of converging on views about their future [8], their life [5] and their child [4].

#### *Converging on views about their future*

Frequently, parents looked for a shared focus, for something to look forward to together with their partners. The parents' common goals and projects encompassed several forms, including joint problem-solving, such as preparing for old age, focusing on judicial processes regarding the death of the child or surviving children's upbringing; involvement in a charity project; and having grandchildren or another child. Having something to focus on together was associated by the participants with greater cohesion between the parents. For example, one father stated: "Doing something together to help another person, I think it would make us even stronger… We know each other very well and we would make a good team" (M, 48y, 2y).

#### *Converging on views about life*

Parents focused on the importance of having a positive view of life. For example, as one

mother said: "I think he also turned out to be much more optimistic and we ended up helping each other a lot (...) we ended up pulling each other up… we are now more alike, in the way of seeing life" (F, 27y, 7m). Coherent with this association between similarity regarding the way of viewing life and mutual support, this mother's partner referred to how the shared life and loss beliefs, namely regarding positivity, constituted the definition of their relationship: "Being positive and thinking that things happens for a reason and that we have to take some kind of lesson, we have to move forward…I would say this is how I can describe our relationship" (M, 32y, 7m). Other shared perspectives consisted in living one day at a time, appreciating each day, and establishing priorities together.

*Converging on views about their child*

In addition to congruity in beliefs regarding the loss, parents also seemed to search for congruity regarding the way they maintained the bond to their child: "My husband taught me that our child is still alive in our hearts, and this has been helping me for a long time" (F, 32y, 16m). Joint efforts to keep the child present in their lives in a different but meaningful way constituted a beneficial coping strategy for parents.

**Communication**

Communicating with the partner involved giving and demanding direct feedback [10] and, when this feedback was unavailable, gathering feedback indirectly [9]; and learning adaptive coping strategies from each other [8].

**Direct feedback**

Communication with the partner was associated with receiving *direct feedback*, that is, information from the partner on his/her emotional state, difficulties and needs: "Asking how can I help, because sometimes I do not know what to do to help her" (M, 32y, 7m). Consistently, this father's wife also talked how he provided feedback on his needs, for example, when, at a certain moment, he did not wanted to talk about the loss: "There were times when he did not want to talk and he asked if we could not talk at that time" (F, 27y, 7m). Requesting feedback from the partner was important in understanding how to best support him/her. Additionally, the provision of direct feedback of their needs was relevant.

As one mother stated: "I explain that I am not upset with him, I simply do not want to talk" (F, 39y, 6m). Being clear on what one wants or needs was important to dissipate possible misconceptions regarding one's behavior. Therefore, giving clear feedback was important in reassuring the relationship stability. Both searching for feedback from the partner and giving feedback to the partner, by stating one's needs, emerged as relevant parents' interpersonal coping processes because it enabled not only the exchange of information but also turning toward and connecting with one another, thus reassuring both relationship stability and the wellbeing of the partner.

**Indirect feedback**

When parents were not able to talk about how they were coping with the loss directly, they looked for indirect feedback, particularly through non-verbal communication [5] and external resources [4].

*Non-verbal communication*

Parents looked for their partner's non-verbal signs that informed on his/her emotional state: "One glance is enough to know how she is, and she does the same with me" (M, 48y, 2y). This attunement regarding partner's non-verbal communication suggested an inherent sense of deep mutual knowledge. Additionally, one mother said that her way of obtaining information from the partner was by exploring, providing hypotheses and using the reaction of her husband to validate or discard them: "I ask questions to try to guess what is hurting him ... And when I start to hit the target is when he starts to cry, to show more feelings" (F, 32y, 16m). Here, the perceived importance of partners sharing their emotions was also observed. The awareness of mutual indirect feedback between partners regarding emotional reactions, such as hostile and impulsive behaviors, could also be discerned: "She seems to be very calm and then there is a boom, because she is not well. It is hidden there" (M, 48y, 2y). Partners' sudden setting off was emphatically understood as a sign of partners' emotional instability. Additionally, the possibility of discharging anger on their partner was a sign of confidence in the bond of the relationship: "When I give him two shouts, because he knows me well, he knows that I am having a bad day" (F, 48y, 2y). Picking up on nonverbal signs and efforts in interpreting them created a sense of mutual

understanding between the parents, therefore constituting important interpersonal coping processes.

*External resources*

Another way of receiving indirect feedback included the *use of external resources* [4] such as spirituality: "He does not take the initiative to talk (*about his grief, their son*)…but sometimes there are homilies that impact us more and we talk about it... (F, 47y, 22m)". Metaphors (e.g., aspects discussed in a priest's sermon) were used as a way of talking and thinking together about the parents' loss. Another identified external resource for bereaved parents was group sessions, in which disclosing was used as an indirect way of obtaining information about each other and processing the loss of their child together. Parents suggested that sometimes it was too painful to talk about their child and their loss. However, by analyzing the non-verbal behavior of the partner and using the resources around them, parents were able to access information about their partner's grieving and process the loss together, while respecting their partner's need for distance.

**Learning from each other**

Parents focused on exchanging information and providing advice on grieving in a way that they believed to be helpful. For example, one father explained: "For me and mostly for my wife's sake, I try to make her see that life goes on (…) The loss will always exist but we have to learn to deal with it, we have to move on" (M, 41y, 6m). Without denying the reality of the loss and its impact, parents tried to guide each other toward restoration. Such targeting of restoration included the encouragement to focus on aspects of life such as work, surviving children and the marital relationship. For parents, the ultimate goal of supporting the partner was to contribute, as much as possible, to decreasing the other's suffering: "We try helping the other make his journey with the least possible suffering" (F, 63y, 14y); "What I try to do, is to take her to other paths, so that she can get out of that place, without guilt" (M, 41y, 6m). As this father's wife attested: "We did not think that either I or he could have done something different to change what happened (…) I think that was very good for us… we helped each other find peace in ourselves" (F, 39y, 6m). Supporting the partner involved challenging self-diminishing perspectives, fostering new perspectives and building on the strengths in the parents' lives.

## Care-in-relation

Parents elaborated ways of caring for the partner and being attentive to his/her individual needs. This coping process, which we have designated "care-in-relation", includes two main interactive functions: protection of the partner and protection of the relationship. Flexibility and empathy in understanding the needs of the partner and acting accordingly are highlighted as ways of demonstrating care-in-relation. Two contexts of the marital relationship in which care-in-relation emerged as an important resource were mutual support [13] and conflict management, though with a smaller incidence of the latter [5].

### Care-in-relation in mutual support

Parents' care-in-relation was present both when demanding and giving support [11] and in searching for the partner's or own external support [5].

*Demanding and giving support*

When asking for support and self-disclosing, parents referred to having considered the emotional state of the partner. For example, one father mentioned talking about his and his partner's grief only when the other parent was stabilized (M, 32y, 7m); another mother said that even when she needed to talk about the child, if her husband looked fine or distracted or was having a nice moment, she would not go to him; she would not "pull him down" (F, 39y, 6m). Similarly, her husband stated that "If she is listening to music or ... I'm not going to be like "leave that good moment there and come talk about bad moments". I do not do this to her, nor she does it to me. We respect each other's space". (M, 41y, 6m). Some parents mentioned that, occasionally, asking for support from the partner appeared to collide with the partner's opportunity to take time off from grieving (e.g., engaging in distracting activities). Therefore, they acknowledged this coping strategy of the partner as valid and important. Inherent to the processes of holding grief inside (not talking, expressing emotions) was the wish to protect the partner. For example, one father mentioned: "It is to be there without touching it, knowing that the other is there (…) Sitting next to, but without speaking, with the least possible dialogue, so not to hurt the other person" (M, 48y, 2y). This is consistent with his wife needs: "If he asks what is going on, I

react aggressively (…) When I am not well, he would not tell me anything. He knows me well" (F 48y, 2y). Giving space by not talking about the child describes a way of honoring the partner's needs and protecting him/her, thus enhancing as a way of care-in-relation.

Another example of care-in-relation was parents' perception of their partner's willingness to change in order to support them: "I noticed his effort to understand that I was in pain, and so he talked more. He understood that for me this was better" (F, 43y, 7y). One mother said that even though her husband did not need to go to the cemetery as often as she did, he would sometimes visit the grave of his infant child with his wife because he knew it was important for his wife that they shared these moments together (F, 48y, 11y). In addition, one mother stated the importance of making up for not offering support. She mentioned that even though her husband did not want to talk about the child at one particular moment, it was very important that when he felt ready to talk that he would approach her and offer support (F, 27y, 7m). This finding highlights the importance of respecting each partner's need for distance as well as the importance of the partner making a connection when he/she feels more stabilized.

*Search of partner's or own external support*

Another indication of care-in-relation was the encouragement of partners' search for external support and one's search for it. The recognition of limitations in supporting the partner attested to the importance of each partner's search for external support (namely, psychological counseling) as an important resource for the partner's restoration: "We have to know what we are doing (…) my wife was in a path of self-destruction, a total neglect for everything, and I started looking for a psychologist for her" (M, 48y, 2y). Accordingly, the parents who sought psychological counseling mentioned not only that it contributed to their adjustment to the loss individually but also that it resulted in important benefits for the marital relationship, such as learning to understand the partner's reactions – "Having talked to the psychologist helped me to realize what was normal and what was not normal in my husband" (F, 32y, 16m) – and taking on the strain and burden of support within the marital relationship: "It is important to have someone else who to talk to (…) because we cannot think rationally, and it is hard to support each other" (M, 53y, 10y). Parents protected each other and the relationship (care-in-relation) not only by acknowledging one's difficulties in supporting the partner and encouraging external

support but also by not relying exclusively on the partner for support.

### Care-in-relation in conflict management

Care-in-relation in conflict management was mainly present in the ability to avoid or recover after the conflict [5]. This consisted in not holding grudges: "He is not prideful and I learned not to be like that with him. After five minutes we are ok. We recover fast" (F, 39y, 6m); and making every effort to return to the relationship as it was: "Even if we are upset with each other, we cannot stop talking to the person, even if we just say the strictly necessary (…) We can have big conflicts but no one sulks" (F, 65y, 14y). Not turning away completely and keeping some type of connection was perceived by the parents as a useful way to recover after conflicts.

Moreover, one mother attested to the importance of compromising, by agreeing to disagree: "We can have an argument, and he has his opinion and I have mine, but we manage to keep it rational and sometimes the conclusion is that I am right and so are you" (F, 27y, 7m). In addition to these abilities to recover from conflict and settle down after, one mother also stressed the importance of preventing the conflict by identifying its triggers: "I think we know each other very well and so when we see that the fuse is starting to lit, there is always one of us that calms down" (F, 39y, 6m). Through this approach, parents were able to keep the conflict from escalating, therefore protecting their partner and their relationship.

## Discussion

In this qualitative study, we examined parents' perceptions of positive interpersonal coping processes that helped their relationship after the death of their child. The main findings of this study suggest a hypothesis for coping that involves communication, search for meaning processes and care-in-relation, with two common features: (re)appraisals and coping behaviors (see Figure 1). These findings also provide an important contribution to the literature by clarifying parents' interpersonal coping processes that take place in the context of the death of a child and their positive connection to the marital adjustment to such a traumatic loss.

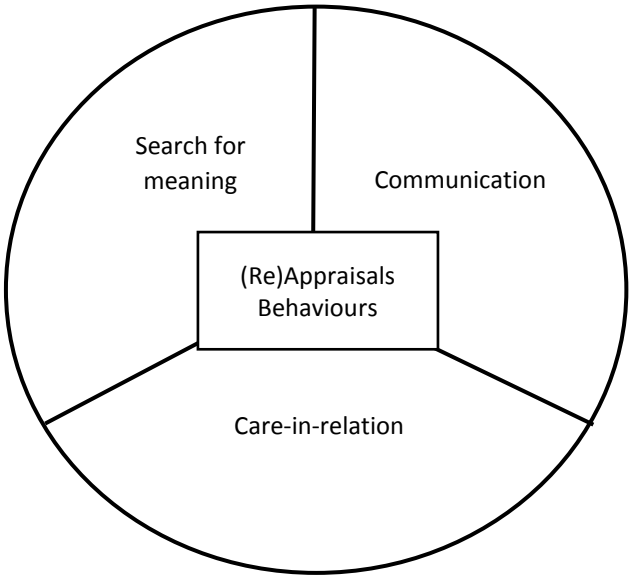


**Figure 1** I A three-component conceptualization of bereaved parents' marital coping - with (re)appraisals and coping behaviors as common features

Having to concurrently grieve for the loss of their child and support each other may elicit several stressful interactions between parents. When facing a stressful event, couples or individual members of the couple first evaluate its meaning for them, individually or collectively (Boss, 2002; Lazarus & Folkman, 1984). In this study, parents' search for meaning was important to their relationship because it enabled empathy and acceptance toward each other, commitment in each other's wellbeing and a sense of communion derived from shared views. In this context, both individual as well as shared (re)appraisal processes emerged as relevant processes in the parents' interpersonal coping realm.

**Individual (re)appraisal processes**

Our findings suggest the presence of cognitive restructuring processes such as reframing that may have enabled parents to maintain a positive view of their relationship and of their partner during their suffering, coherent with their previous belief structure. The reframing of relationship difficulties as temporary and their normalization included an inherent commitment and hope for the restoration of the marital relationship, which is in line with the notion that in times of despair, hope fuels energies and investment to rebuild relationships (Walsh, 2007). Hope involves not only an agency to change but also includes encouragement to persevere when change is not yet observed (Snyder et al., 2000),

therefore helping parents remain committed to each other during marital difficulties. Moreover, authors have argued that perceptions of the relationship are closely connected to perceptions of partners. A more positive perception of a partner's characteristics and a belief that the relationship will be successful are associated with a higher investment in the relationship (Karney & Bradbury, 1995). In this study, we found that the cognitive efforts undertaken to understand partners' individual coping and their positive assessment were important parents' interpersonal coping processes. Consistent with the study of Gilbert (1989), parents changed their appraisals of their partner's behavior by changing the meaning of their behavior and viewing it from a more positive perspective. This positive reframing was related, in particular, to their differences in grieving and coping.

The need to confront/distract from grieving at different times has been argued to lead to incompatibility (Stroebe & Schut, 2015). However, instead of viewing their differences as problematic, the parents interviewed in this study viewed their grieving timings as complementary. In line with prior findings (e.g., Gilbert, 1989), if one partner was unable to respond in his or her normal manner, the other partner stepped in. Through this role flexibility, the parents were able to use each other's strengths and receive comfort from each other, which can be difficult when both partners are overwhelmed by their grief (Gilbert, 1997). This role flexibility can be understood in the context of the Dual Process Model (DPM) of coping (Stroebe & Schut, 1999), which describes adaptive coping as the oscillation between spending time confronting a death and the emotions of grief (loss-orientation) and restoring their daily routines (restoration-orientation). For example, more loss-oriented people benefit from their partner stepping in and focusing on daily activities. It is also important that this role flexibility depicts different timings of grieving – going through emotions at different times – rather than differences in coping per se. Therefore, rather than viewing differences in these timings as an obstacle to overcome, the focus should be on how these differences are interpreted. In future research, it would be relevant to examine, within couples, the perception of partners' coping and possible appreciation of the differences, as well as whether these perceptions influence parents' relationships.

### Developing shared appraisals

Similar appraisals shared by the parents also emerged as important processes in their marital adjustment. These included appraisals of how life is perceived, the way in which their deceased child is integrated into their lives, and the perception of the future as a couple. A shared narrative was found to be helpful not only in the grief process itself, as previously reported (Toller, 2008), but also in maintaining togetherness in the couple (Riches & Dawson, 1996). An important process for the development of shared appraisals was the interactive construction of meanings. Using the couple relationship as a knowledge-builder (as in Nadeau, 2008), parents in our study often offered advice and helped each other reframe their view of the loss, learning from each other adaptive coping strategies and exchanging beliefs, therefore simultaneously engaging in coping efforts coherent with supportive and joint dyadic coping efforts (Bodenmann, 2005). This finding is consistent with studies suggesting that having similar perspectives of an event may both result from and affect collaborative efforts, positive coping and mutual engagement (Bodenmann, 2005). This is also consistent with the cultural background of the participants of this study. Collectivistic oriented cultures, such as the Portuguese (Hofstede, 2001), show more emotion-focused coping and joint DC than cultures with a more individualistic orientation (Vedes et al., 2016). Possible mechanisms of the positive effect of perceived similarity in relationships include feeling understood and validated and signaling that the partner understands the self and that he/she is not alone (e.g., Pollmann & Finkenauer, 2009). In this study, however, we could not examine which mechanisms accounted for the relationship between shared appraisals and marital adjustment, which would be an important research question to explore in future studies.

### Coping behaviors: Search and provision of feedback

One of the most relevant interpersonal coping behaviors was parents' search and provision of feedback on each other's grief and coping. This behavior relates to the active engagement described by Coyne and colleagues (Coyne & Fiske, 1992; Coyne & Smith, 1991) – exploring and inquiring about each other's emotions – and the self-disclosure feature present in the interpersonal process model of Reis and Shaver (1988), which is defined as sharing information on one's personal needs, wishes, or emotions. Prior

research has indicated that if parents knew more about their partner's thoughts and feelings, it would be easier for them to recognize and respond to their partner's distress signals (Mikulincer & Shaver, 2005) and be supportive (Rosenblatt, 2000). Our findings are consistent with these perspectives because the exchange of feedback and search for meaning in the partner's grief enabled parents to put themselves in the position of their partners and understand their needs. Acknowledging and respecting their partners' needs was displayed in several ways, which was possible through care-in-relation.

**Coping behaviors: Care-in-relation**

Care-in-relation, which aims mainly to protect and care for the partner and the relationship, was stressed as important to parents' interpersonal coping because it contributed to adapting to the partner's needs. This coping process involved the ability to change and to be flexible, which has been stressed as crucial to restoring order, safety and stability in the family after trauma (Walsh, 2007), and is one of the characteristics that distinguishes functional from dysfunctional couples (Olson & Gorall, 2003). Another relevant process in care-in-relation was parents' empathy in understanding and acting in accordance to partners' needs. This behavior is consistent with the model of empathic coping (DeLongis & O'Brien, 1990), which highlights the importance of responding to the partner sensitively, according to previous interpretations of the partner's needs. Among the parents who participated in this study, flexible interpersonal coping involved in care-in-relation was found in relation to conflicts, including being able to compromise during conflicts (O'Brien & Delongis, 1996), but care-in-relation in demanding and giving support had the strongest presence in the parents' narratives. In this respect, care-in-relation was observed in both giving space and searching for external sources of support.

Parents indicated that there were times when it was better to refrain from communication and give space to the partner. Toller and Braithwaite (2009) reported similar coping processes; in their study, parents needed to vent and to share emotions about their child's death with their partner, but at the same time, the pain was often so pronounced that parents needed time on their own. This parallel need to withdraw from contact and move inward is important to resting and recovering, to diminishing the level of arousal, and to processing and assimilating loss (Sabar, 2000). Moreover, providing this time or space was

important for the relationship. Indeed, by doing so, parents accepted their partner's coping strategy of seeking distance in times of stress, as well as acknowledged their need for agency, which according to O'Brien and Delongis (1997) is an essential feature in couples' coping. We agree with the suggestion of Hooghe et al. (2011) that discreet silence about one's loss experience can be considered an adaptive response to grief. Our results contradict, however, the findings of a recent study on the detrimental effects of attempts to self-regulate remaining silent to protect the partner (Stroebe et al., 2013). One aspect that may account for this inconsistency is that in our study it was unclear whether the person giving space had to hold in grief. It is possible that if a person does not have to self-regulate and does not have the need to share his/her pain, POSR processes may not be as detrimental as they may be if a person is in fact holding in and going against their need to be open about their grief with his/her partner. Hence, research involving individual coping and needs as potential mechanisms (moderators or mediators) in the associations between POSR and individual and relational adjustment should be pursued. Additionally, future research on empathic accuracy among bereaved couples – the extent to which partners in a relationship can accurately infer each other's thoughts and feelings (Ickes, 1993) – could be of value.

In addition to respecting the boundaries of the other, by giving space, acknowledging one's own boundaries and difficulties in terms of providing support to the partner also attest to care-in-relation in the relationship. In this study, seeking help outside the marital relationship was identified as an interpersonal coping mechanism, as reported in other studies (e.g., Bergstraesser et al., 2015; Gilbert, 1989; Pailey, 2008). Parents in our study identified seeking external support as important to obtaining alternatives and more adjusted perspectives on the partner's coping, therefore contributing to its acceptance. This finding is in line with evidence suggesting that by seeking outside help, parents were able to understand and accept their dissimilar grieving mechanisms and eventually grieve together as a couple (Toller & Braithwaite, 2009). The loss of a child affects both partners simultaneously and, thus, there will be times when they both feel intense grief and cannot bear their partner's pain (Rosenblatt, 2000). Accordingly, participants in our study explained how they needed to be relieved from the pressure of being the only emotional support for their partner. Therefore, in line with the findings reported by Pailey (2008),

talking with others may have resulted in reduced emotional burden for the supporting partner and allowed the one being supported to vent in a way that did not cause their partner more pain.

**Strengths and Limitations**

This study offers important contributions to the literature. Our findings provide a significant description of the specific mechanisms that bereaved parents use when coping as a couple with the death of a child, which enable them to balance their own, their partner's and their relationship's wellbeing. Of particular importance was the focus on parents' cognitive coping processes, which have been largely neglected in the parental grief literature. In addition, information was provided on how and when certain interpersonal interactions (e.g., talking about the child) between partners impact the marital relationship. The emphasis on couple resources can also be considered a central component to intervening and assisting bereaved parents. The use of a qualitative design also allowed for a more fine-grained analysis of coping processes, and CGT allowed for an analytical contribution to the descriptive nature of the coping processes. Also, consistent with the research by Martin and Doka (2000), this study moves beyond gender grieving stereotypes, by focusing in the parents' patterns in the ways they experience, express, and adapt to loss and not focusing on males and females processes of grieving.

Despite these strengths, this study is not without limitations. First, we underline the sampling bias, a limitation commonly found in grief literature (for reviews see Albuquerque et al., 2016; Oliver, 1999), which resulted from the self-selection of parents and that may have excluded severely maritally distressed parents. Second, the inclusion of both members of the couple, though warranted, was limited, and although we adopted a dyadic perspective, the interviews were analyzed on an individual level. Therefore, we were not able to establish whether the perception of a partner's coping process as positive matched the perception of his/her partner. When considering future research, it is essential to acknowledge the difficulties of recruiting both partners, specifically the male partners (as observed in this study), and to elaborate on strategies that may diminish the general lower male participation rates that are common in bereavement research. However, in studies that involve experiences with significant suffering, such as the present

one, there is a risk for emotional activation. This may be conflicting with participants with avoidant coping, which has been shown to be more characteristic of males (Stroebe et al., 2003). Also, in the Portuguese culture, the marital relationship is seen as a private affair with little openness to others outside the couple, which might make Portuguese people in general, and Portuguese men in specific, particularly skeptical in participating in this type of research (Vedes et al., 2016).

Evidence has shown that perceptions tend to be reasonably accurate accounts of behaviors (Hobfoll, 2009). Hence, we believe that our focus on perceptions, even though biased by participants' personal views of events, is of reliable value. In addition, the sample was heterogeneous regarding the death and child characteristics (e.g., cause of death, time since death, or age of the child at death). The sample composition can be considered a limitation; however, we aimed and we were able to find patterns and common themes that were evident across the sample, regardless of its heterogeneity. Finally, it is noteworthy that given the qualitative nature of this study, these findings should not be generalized to the wider population of bereaved parents. Certain results of this study should also be considered with caution. For example, we could not establish a direct connection between specific cognitive efforts, such as reframing and coping behaviors. Because the interview questions were directly related to coping processes that helped participants as a couple, the couple's efforts were framed as positive. However, their direct association with marital adjustment was not always evident and therefore should be explored in future studies. In addition, our results refer to parents' perceptions of what was helpful to them. Future research should outline interpersonal coping as involving both positive and negative processes. Moreover, certain cognitive efforts were referred to as reframing, given the search for meaning efforts present in the parents' narratives and the fact that these appraisals had a positive impact on parents. Parents' narratives suggest that parents' appraisal processes were more elaborated and not particularly intuitive, but we cannot ascertain whether these appraisals consisted of direct, immediate and intuitive evaluations or of reinterpretations of the event (for definitions of these processes, see Gross & John, 2003). Finally, this study provided several themes that can be followed up with further qualitative and quantitative research. Indeed, mixed methods studies would be of value, namely those using an integrative, where each method would be intended to

produce data on a specific part of a whole, or a multi-dimensional logic, where the different questions and methods are explored in a collective manner, resulting in multi-nodal explanations (Mason, 2006).

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# Empirical study IV

## Interactive processes in grief and relational adjustment after the death of a child

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# Interactive processes in grief and relational adjustment after the death of a child

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**Abstract**

The death of a child is an individual process of grief but also a context of significant relational processes, which have been only rarely considered in research. The aim of this study was to examine the interactive processes within bereaved parents. Eighteen married bereaved parents were interviewed individually. The semi-structured script included questions about the couples' relationship after the death of the child, particularly the relational dynamics and the association between the individual and relational realms. Data analysis using constructivist grounded theory allowed for the development of a circular hypothesis, suggesting that parents' individual grief influences and is influenced by the couple's relationship and partner support, involving interdependence and patterns of emotional transmission (empathy and emotion contagion) within the couple. The findings suggested that psychological interventions should include the dyadic level to optimize mutual support and the benefits obtained within marital interactions.

**Keywords:** adjustment, couple relationship, death of a child, partner support.

## Introduction

The death of a child has a devastating impact on parents (Arnold & Gemma, 2008), resulting in intense grief and poor psychological and physical health (Rogers, Floyd, Seltzer, Greenberg, & Hong, 2008). The adjustment to a child's death impacts both parents, thus challenging them with the expectation of providing support to their partner while coping individually (Rogers et al., 2008). The difficulty in paying attention to the partner, due to the overwhelming nature of one's own grief, in addition to awareness of the partner's unavailability, can affect the intensity and security of the relational attachment and quality (Oliver, 1999). Research has shown that the relationship satisfaction of bereaved parents decreases over time and that they have higher divorce rates than other parents (Lyngstad, 2013).

Nevertheless, when parents are able to grieve together and to obtain comfort from one another, their relationship can also function as a major resource (Song, Floyd, Seltzer, Greenberg, & Hong, 2010). Marital relationships with these characteristics can serve as a source of stability and support, which are integral components of adjustment to bereavement (Barrera et al., 2009; Gilmer et al., 2012) and a basis for meaning-making (Murphy, Johnson, & Lohan, 2003). In order to understand the full extent of the association between individual grieving and the couple's relationship, it is important to recognize mutually reinforcing interactions between partners. Hence, as an interdependent dyad, partners emotionally, cognitively, and behaviorally affect each other (Stroebe et al., 2013; Walsh & McGoldrick, 1991). As part of an interdependent family system, feelings of individuals are often evocative of feelings from others (Hooghe, De Mol, Baetens, & Zech, 2013). Accordingly, after a child's death, noticing the partner's response to the loss may activate similar reactions in an individual (Schwab, 1992).

Family systems theory's perspective on loss provides an important theoretical framework anchoring this study, as it considers the impact that the death of an individual has for the family as a functional unit. In such unit, each member's coping strategies and development are interdependent, and therefore any death will have an immediate and long-term impact for every member and their relationships (Bowen, 1976). Another relevant framework within the context of shared stressors is the systemic transaction

model (STM, Bodenmann, 1995), which assumes a mutual and reciprocal influence in coping between dyad members. Wijngaards-de Meij et al. (2008) confirmed the interdependency between bereaved parents, showing the association between the parents' adjustment and their own and their partners' coping. In the process of coping with the death of a child, interpersonal emotion regulation processes can come into play. One of these process is partner-oriented self-regulation (POSR), which is defined as avoidance of talking about the death and remaining strong in the partner's presence with the intention of protecting him/her (Stroebe et al., 2013), and it has been associated with more grief symptoms for both partners. Moreover, even sharing the death of their child, they might have dissimilar grief, which is an aspect that has been identified as a significant factor for marital problems (Buyukcan-Tetik, Finkenauer, Schut, Stroebe, & Stroebe, 2016).

Recent studies have begun to recognize that parents' adjustment includes individual and relational processes (Stroebe et al., 2013), thus emphasizing, in coherence with the notion of systemic complexity (Morin, 2008), the need to consider the marital relationship and the individual partners (the whole and the parts), as well as a set of interwoven relationships, actions, and reactions that collectively create this system. In this study, we aimed to analyse the intricate interaction between the whole (marriage) and the parts (individual partners), along with interpersonal processes. Using a qualitative methodology, this study provides depth of understanding parents' adjustment to the death of a child by allowing for the expression of their complex experiences, uncovering unique meanings, and contributing to the development of a thorough picture of this interpersonal context.

## Methods

### Participants

The sample consisted of 18 biological parents (participation rate of 32.1%). Fifteen mothers and four fathers, including four married couples, participated. All of the parents were married to or cohabiting with their child's other biological parent. The parents' mean age was 45.18 years old (*SD* = 10.46; range: 27-65), and they were married or cohabiting for an average of 23.97 years (*SD* = 13.18; range 3-45). The parents were mostly college educated (*M* = 13.22 years of education; *SD* = 3.77; range: 5-19). Fifteen parents were employed, and 14 had other children. The deceased child's mean age was 12.58 years old

(*SD* = 11.68; range: 0 (stillborn) – 33), and the time post-death was an average of 6.25 years (*SD* = 4.21; range: 10 months – 14 years). Thirteen of the children were male, and six of them died from illnesses, four from neonatal deaths and accidents, three from sudden death and one from homicide. For 13 parents, the death of the child was unexpected.

**Procedures**

The Ethics Committees of the hosting institution and all of the participating hospitals approved the study. The participants were involved in the first phase of a larger research project. This project involved the completion of an online survey, to which the parents provided their contact information if they were interested in participating in this study. The inclusion criteria involved having lost one child; being married or cohabiting; the death of the child had to have occurred more than six months prior to the interview in order to avoid the crisis period (Stroebe, Stroebe, & Schut, 2003); and being at least 18 years of age. Eligible parents were contacted by e-mail by the first author and followed up with an allowed telephone call to clarify any questions regarding the study's aims and procedures, to reinforce the ethical considerations, and to help developing participants' familiarity with the interviewer.

The interviews were conducted over four months at a previously designated place or at the parents' home. Informed consent was obtained, and to minimize the parents' distress, the interview was conducted by the first author, who is clinically experienced in bereavement and who remained available for any information regarding grief support organizations.

**Measurements**

The interviews (average duration = 90 minutes) were conducted individually because of the fear that information being revealed to a partner can influence the quality of data (Eisikovits & Koren, 2010). The semi-structured script included questions about the couple's relation-ship after the death of the child, particularly the relational dynamics and the association between the individual and the relational realms, namely mutual support, communication, conflicts, intimacy and dealing with the partner's grief and coping (e.g., "What is it like for you to deal with the grief and coping of your partner? Have you

identified any changes regarding communication? How do you deal with possible conflicts? How do you support each other?"). We also used probes to prompt detailed data and iterative questioning, in which the interviewer returns to matters previously raised by an informant and extracts related data through rephrased questions (e.g., "You previously discussed how your partner's support influenced your grief. Were there any other ways through which your partner had an impact on you?"). Also, at the end of each interview, participants were asked to determine the representativeness and comprehensiveness of their participation in the interview (e.g., Would you like to add something regarding your individual and dyadic adjustment to the death of your child?).

**Data analysis**

Our main methodological strategy for data analysis was constructivist grounded theory (Charmaz, 2006), which, compared to traditional versions of grounded theory, adopts novel characteristics, such as the importance placed on context, the role of the researcher in the construction of the theory (reflexivity) and the existence of previous knowledge about the subject.

The analysis was conducted by one coder (the interviewer) and three consultants. We decided that the interviewer would be the sole coder in the interviews' analysis. This decision was based on the fact that because the interviewer had access to participants' words, their attitudes and self-presentation, she would be more likely to develop an intimate connection with the data and to conduct an analysis with higher fidelity and sensitivity to the participants' experiences. According to Levitt (2015), the interviewer may be the one that is best prepared to acknowledge a panoply of meanings that can otherwise be lost if only transcripts are used.

The interviews were transcribed *verbatim*. The data analysis was supported by NVIVO software, version 10 (QSR International Pty Ltd). In the first step of the analysis (initial coding), the initial set of codes generated resulted from the examination of fragments of data to identify participants' descriptions of thought patterns, feelings, and actions. The second phase consisted on focused coding, which allowed for the synthesizing and explaining of larger amounts of data; similarities and differences between codes were identified, and codes that fitted together were clustered into more abstract categories

(constant comparison). Finally, we explored how each category was related to the others, allowing us to transform categories into subcategories and to identify broader thematic categories based on the data (axial coding) (Charmaz, 2006). In the data analysis, we moved forwards and backwards, constantly re-examining the data, codes, and categories. The data collection and coding continued until all of the codes and relationships were substantiated by the data, and no new insights emerged, hence achieving data saturation. Theoretical sampling was used. Decisions on which data would be gathered were based on provisory theoretical assumptions.

Several methods were used to ensure the validity of the results. Throughout the coding process, as suggested by Strauss and Corbin (1998), constant comparison methods (mentioned above) and memo writing were performed. Analytic memos were written to record thoughts, theories, and method decisions and had the goal of recognizing and restricting the effect of investigators' own biases and processes upon the data. Indeed, a monitoring system that allowed standing back, thinking and documenting the ways the researcher could affect the research process was very important to ensure the validity of the generated themes. Another way of ensuring validity was through theory triangulation. In the final stage of the analysis, a process of abduction was recorded, considering how the emerging issues and ideas did or did not match current knowledge. This was done only at the final stage of the analysis, so that the analysis was mostly representative of the participants' reports, without being tampered by previous knowledge. Regular meetings of the core research team provided a forum for evaluating emerging themes, discussing alternative approaches, and assessing whether the researcher was imposing personal viewpoints and biases and altering the data, therefore assuring the research credibility.

## Results

To present a relative indicator of category saturation, the number of participants coded and the information regarding fractions of the total of the participants (e.g., one half, one third, etc.) are provided within brackets. The participants' quotes were identified by a letter representing gender (F–Female; and M–Male), a number representing the age of the participant, and a number representing the time since the child's death. As an example,

the identifier "F, 30y, 8m" indicates a quote by a 30-year-old woman who lost her child eight months earlier.

In the analysis of the interactive processes between bereaved parents, three categories emerged: the impact of the couple's relationship on individual grief [12; two thirds]; the impact of individual grief on the couple's relationship [9; one half]; and mutual influences [6; one third]. A summary of the categories and codes is presented in Table 1.

**Table 1** I Summary of the main categories and codes

| **Categories and codes** | | |
|---|---|---|
| **Impact of the relationship in individual grief** | | |
| Impact of receiving support from the partner | Positive:<br>- in everyday life<br>- strength needed to carry on<br>- open expression of feelings | |
| Impact of providing support to the partner | Positive:<br>- regulating own emotions<br>- changing the focus<br>- increasing sense of control | Negative:<br>- burden |
| **Impact of individual grief on the relationship** | | |
| Adaptive grief and mutual support | Consuming grief and marital difficulties | |
| **Mutual impact in partners** | | |
| Impact of the partner's grief<br>Impact of partner's contrasting coping behaviors | Emotion transmission: empathy and emotion contagion | |

### Impact of the relationship on individual grief

To understand the impact of the relationship on the parents' individual grief responses, we analysed reports of the interactive support processes between the parents, considering the perspectives of both the recipient and the provider of support.

#### Impact of receiving support from the partner

Parents discussed the importance of partner support in multiple contexts [9, half], emphasizing its relevance in everyday life -"The fact that he could help me every day was very good, because otherwise, I think that the recovery would have been much harder" (F, 32y, 16m) – and in their overall individual adjustment: "We realized that together it is easier to manage; it is easier to carry on" (F, 48y, 11y); "When a person is alone, one feels

lost, disoriented. The fact that we supported each other made me more confident to face life and keep venturing" (F, 52y, 13y). Partner support was listed by one mother as liberating, as it allowed an open expression of feelings: "He respects and reacts well because he is aware that it is good for me to free myself, to cry a lot because it is worse for me when I do not cry" (F, 39y, 6m). Respecting the wife's need to express feelings was associated with the perception that it was beneficial for her. For these parents, the experience of this traumatic loss would have been even more difficult without the support of the partner.

### Impact of providing support to the partner

Parents also elaborated on the personal consequences (positive and negative) of supporting the partner [6, one third]. Regarding benefits, while emotionally regulating the partner, parents seemed to be regulating their own emotions: "I sometimes felt that, when he did not say anything or gave me strength, he also lost a little bit of control over himself. He just grabbed me, hugged and sometimes cried with me" (F, 32y, 16m). Another mother reported how changing the focus from the loss to helping her partner contributed to soothing her grief: "I started to realize that my son no longer needed me; who needed me was my husband, and he was the one I had to support" (F, 44y, 7y). To some extent, comforting the partner could have allowed for distraction from one's own pain, and the parent might have experienced a sense of moving toward recovery because he or she was able to help another person rather than needing help him- or herself.

In addition to these benefits, some parents reported feeling overburdened by efforts to cope with their own situations, as well as providing support to their partners. For example, one mother expressed how she had to withhold her grief to assist her husband: "My feelings had to stay in second place to help him. I could not grieve. I am there doing things, but it seems unreal … am I really doing all these things? Is this me?" (F, 53y, 10y). Attending to the partner's needs sometimes involved self-sacrifice. This excerpt illustrates that the cost of supporting the partner came as a sense of derealization resulted from this mother's grief suppression.

## Impact of individual grief on the relationship

The impact of their own and their partners' grief on the marital relationship was also present [9; half], with a focus on adaptive grief and mutual support and on consuming grief and marital difficulties.

### Adaptive grief and mutual support

Regarding the focus on how the adaptive grief of the partner has impacted mutual support, the parents discussed how important it was that at least one of them was sufficiently stable to be able to support the other: "Fortunately since my daughter died, there is always one of us who is a little better and can pull the other up" (M, 32y, 7m). The different timings of grieving, with one parent being less overwhelmed by grief than the other, allowed for mutual support. Parents might need to trust that partners can bear their suffering and provide support without "breaking up" themselves.

Being calmer was also seen as important to be able to receive support: "Give space …When the person is more or less well, the venting and crying take place" (M, 48y, 2y). For parents, being able to experience their emotions and not feeling overwhelmed by their grief were signs of restoration. When some degree of emotional processing was possible, support from the partner could be beneficial. Until then, the best option was to provide space and not to force support interactions that could possibly be seen as intrusive. The more one was stabilized and able to process the loss in a bearable fashion, the easier that it appeared to provide and receive support.

### Consuming grief and marital difficulties

Another focus was on how parents' consuming grief contributed to marital difficulties, such as estrangement, conflicts and difficulties in communication and mutual support. Specific aspects of individual grief were emphasized as particularly damaging. One example was general discouragement with life after the child's death: "With the loss of a child, a part of us also disappears […] the person loses pride and pleasure in life, and this is reflected in life with the husband … we eventually lose interest" (F, 47y, 22m). The loss negatively impacted life as a whole, with the relationship with the partner included.

Another aspect of grief stressed as harmful for the relationship was the intrusive memories and relentless ruminative thinking about the loss that obstructed the possibility of taking time out, for example, by engaging in couple's rituals: "If I say to my wife, let's go for a walk, the nostalgia invades her because her child was starting to travel, telling us all his adventures…" (M, 53y, 10y). Couple's rituals activated painful child-related memories, hindering pleasant interactions and activities with the partner.

Parents also discussed how the basis for their conflicts was high sensitivity to each other's comments derived from their grief: "In other circumstances we can say some [*difficult*] things, and no one cares, but in times like this, because we are so actively sensitive, it just contributes to more fighting" (F, 65y, 14y). Parents also addressed the lack of energy to engage in the relationship and mutual support: "Because the forces are so limited on both sides, the option is silence" (F, 47y, 22m). Finally, the impact of individual grief on the couple's relationship was also manifested by greater dependency: "I needed him to help me get out of bed, to feed me, to get out of the house" (F, 32y, 16m). These aspects of individual grief found to affect the relationship negatively were mostly related to rigid loss-oriented coping and the consuming nature of the parents' grief. The rigidity of the grieving process and the focus on the loss and on the relationship with the deceased child flooded the parents' lives, leaving no room for the partner or the marital relationship.

### Mutual impact on partners

Parents elaborated on how one partner's grief and coping influenced the other's [6, one third] and the patterns of emotion transmission that substantiated it.

#### Impact of the partner's grief

Regarding the impact of the partner's grief, participants discussed weariness in having to cope with the hopelessness of their partners. For example, one mother said, "He is closed in a capsule […] that he cannot overcome, that life does not make sense, and I am tired …" (F, 47y, 22m). Again, being closed and rigid in their coping with the loss and not letting the partner in also had a detrimental impact on the partner. The inability of helping the partner, given the rigidity of the partner's coping strategies, was experienced by this mother as draining.

For other parents, the basis for the personal impact of their partners' suffering was placing themselves in their partners' positions: "Aside from my pain, I have the pain of seeing his suffering […] sometimes it seems that it upstages my sadness" (F, 39y, 6m). Empathy towards the suffering of the partner resulted in a process of emotional transmission, in which parents suffered because of the partner's suffering. Additionally, another parent mentioned a sense of appreciation for the wife's restoration: "Fortunately, she managed to recover, and I would not change anything about her" (M, 32y, 7m). The partners impacted each other negatively but also positively, particularly when a partner's adjustment was perceived as adaptive.

### Impacts of partners' contrasting coping behaviours

In addition to the impact of the grief of one partner on the other, parents described the negative impacts of some contrasting coping behaviours of partners. These partners' coping behaviours often consisted of efforts to keep the child present in their lives, which were maintained even against a partner's expressed wishes. Some example of such efforts were encountering the child's belongings, talking about the child, going to the cemetery and establishing contact with significant people in the child's life: "The many photographs, poems that my son wrote … it is not easy to live with this [...] Now I am up, but tomorrow, I can be down […] I told her I could no longer bear it" (M, 53y, 10y). The impact of these particularly challenging differences between parents was related to the risk of emotional contagion, that is, that the coping of partner A activating the grief of partner B, thus contrasting with partner B's need to let go and to focus on a forward-looking life.

Parents also discussed how the reactions of partners influenced their own coping with holding grief inside: "I began to realize that I could not speak to him, and I started to feel fear, fear of his reaction, of what he would do, fear that we would become aggressive" (F, 44y, 7y). The husband's avoidant coping promoted fear in the wife, and holding grief inside could have the function of self-protection from the reactions of the partner: "I just cried in secret, because in front of my husband, he says that we will destroy ourselves because I cannot deal with the problem" (F, 65y, 14y). Here, her husband also considered the expression of emotions to be a sign of the wife's disruption and expressed the need to suppress them to protect the relationship.

## Discussion

The purpose of this study was to gain a better understanding of the interactive processes between bereaved parents and the associations between individual grief and couples' relationships. Our main findings contribute to the existing literature by suggesting a circularity hypothesis, showing a recursive relationship between individual grief and the couple's relationship (see Figure 1).

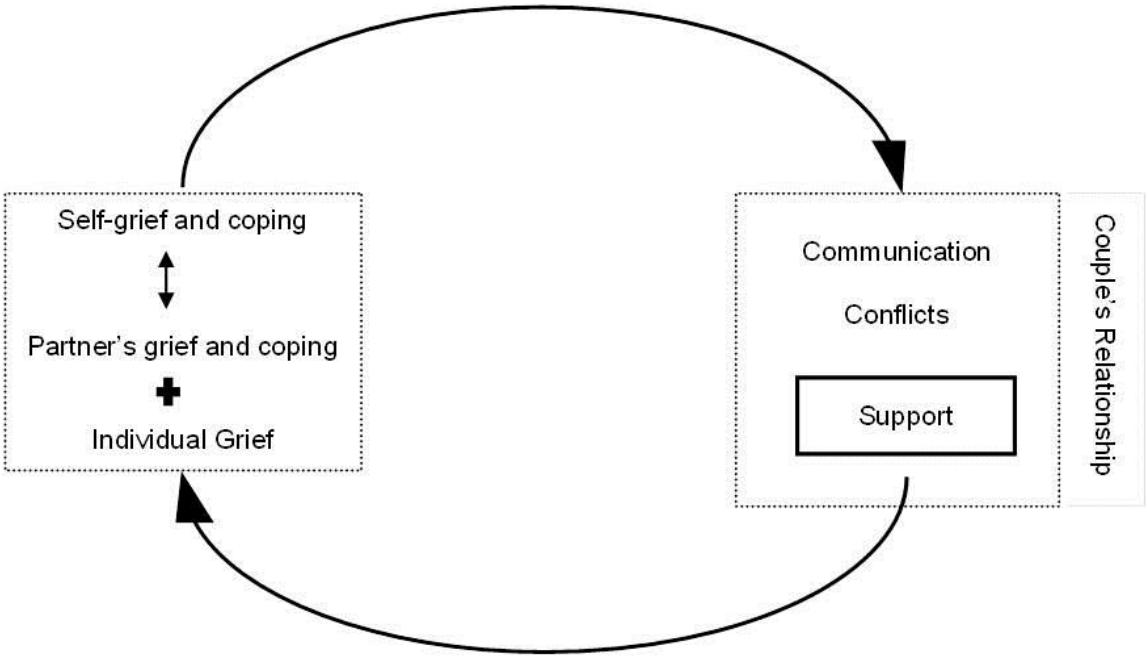


**Figure 1** I Individual grief and the couple's relationship: circularity and components

The results of this study extend prior evidence from bereaved parents of the influence of individual grief on the couple's relationship, as well as of the couple's relationship on the individual grief (Albuquerque, Pereira, & Narciso, 2016). The present study offers an exploratory analysis of the specific mechanisms within these individual-relationship influences. The circularity between the individual and relational domains found in this study and its inherent mechanisms demonstrate the model of understanding of systems of Morin (2008): particularly, how the marital relationship is for the individual partners (the whole in the parts); how the individual partners are in the marital relationship (the parts in the whole); and how the individual partners interact and influence each other (the parts in the parts).

### The whole in the parts

Mutual support was the component of the couple's relationship that emerged as the most important to individual grief, and important interactive processes were emphasized. Support transactions were described as giving and receiving assistance in a cyclical process, in which partners could experience both positive and negative consequences. The findings on the consequences (particularly positive) for the recipient of support were consistent with studies emphasizing the partner as a source of stability and support throughout the bereavement (Barrera et al., 2009; Song et al., 2010). However, the consequences of providing support to the partner, particularly in a shared and difficult context, that is, the death of a child, remain understudied. In this study, the negative consequences for the provider were particularly present if there was a perception of great dissimilarity in grief intensity between the parents. This perception occurred possibly because of the perceived imbalance between provided and received support, which could elicit feelings of inequity and unfairness, thus wearing on the supporting partner (Ybema, Kuijer, Hagedoorn, & Buunk, 2002). Additionally, the burden for the support provider could be related to the suffering elicited by his or her perceived inability to help the partner (Schwab, 1992). Conversely, we found that supporting the partner might benefit the provider of support, for instance, by helping to regulate his/her emotions. This finding was in agreement with evidence suggesting that supporting a partner has the secondary goal of reducing one's own stress as well (Bodenmann, 1995).

### The parts in the whole

Research has indicated that grief often overwhelms individuals (Barrera et al., 2007), which has large implications for relationships with partners (Vance, Boyle, Najman, & Thearle, 2002). Our findings confirmed this notion by showing how the consuming nature of their own and their partners' grief harmed their relationships. This finding was consistent with previous reports of the increase over time in the negative effects of perceived grief dissimilarity on relationship satisfaction, with decreases in relationship satisfaction being greater among those who perceived that they experienced less grief than their partners (Buyukcan-Tetik et al., 2016). In addition, rigid coping strategies of one of the partners, particularly loss-oriented or exclusively focused on maintaining bonds to the child, were

found to be relevant to the impact of individual grief on the marital relationship and on the other partner. Rigid coping strategies have the potential to be harmful not only for the individual, as the Dual Process Model (DPM) postulates (Stroebe & Schut, 1999), but also for the relationship, possibly because of the difficulty in having a positive impact derived from one's or one's partner's rigid coping. Coherently, our participants demonstrated that the more stabilized that one was as a result of one's more efficient self-regulatory efforts, the easier that it appeared both not to receive and provide support. In contrast, because the support provider is also suffering, he/she might also be too self-focused and short of the cognitive and emotional resources necessary to discern and attend to the needs of their partners, a pattern that has been found in the context of cancer (Vinokur, Price, & Caplan, 1996). Future studies of how bereaved parents' individual coping (loss or restoration orientations) and the rigid maintenance of bonds to the child impact the marital relationship would be important to determining how parents could balance their needs and still protect their relationship.

**The parts in the parts**

The ripple effect of individual grief is complex, and in addition to self-regulatory difficulties, other mechanisms were reported by our participants as accounting for the individual grief-marital relationship association. One theme that emerged as especially relevant in the parents' narratives was the mutual influences between partners, consistent with past evidence demonstrating interdependence in terms of grief-adjustment and coping processes (Wijngaards-de Meij et al., 2008). For our participants, noticing the suffering of one's partner activated one's suffering, which is a pattern of emotional interdependence that has been previously emphasized (Hooghe et al., 2013; Schwab, 1992).

In this study, specific patterns of emotional transmission accounted for this emotional interdependence. We found that this process occurred as a result of empathic reactions, that is, sharing another's feelings by placing oneself psychologically in that person's circumstances (Lazarus, 1991), for example, perceiving the injustice of the partner's loss. Different from these perspective-taking efforts, which are conscious and intended in their nature, another underlying mechanism found was emotional contagion resulting from

interaction processes in which parents had to cope with their partners' contrasting coping efforts. In particular, facing and witnessing one's partner's emotions and coping efforts (mostly those related to maintaining a connection to the child) activated challenging emotions in the parent, which were seen as contrasting with their need to move on. By acknowledging the risk inherent to this emotion contagion of interfering with their restoration processes, parents felt the need to self-protect by engaging in avoidant coping strategies, such as withdrawing.

In addition to the perception of the need to self-protect from one's partner's grief, self-protection also emerged as relevant but relative to the hostility of the partner, which resulted in behaviours such as attempts to keep emotionality within to prevent upsetting one's partner. This process seems to relate reasonably well to the POSR (Stroebe et al., 2013), but the function here is not so much the partner's protection as self-protection. Although we did not assess the impact of these processes, prior research has shown the detrimental effects of ambivalence over emotional expression, that is, the competing goals of wanting to show how one is feeling yet fearing the consequences of such self-expression (Mongrain & Vettese, 2003; Tucker, Winkelman, Katz, & Bermas, 1999).

Taken together, our findings suggested, although in a preliminary manner, that patterns of emotional transmission are important for the self, the partner and the marital relationship. In future research, it would be relevant to examine how different types of emotional transmission patterns and interpersonal interactions influence partners individually and as couples. Moreover, our results emphasized a novel aspect in the study of the association between perceptions of one's spouse and the processes of emotion contagion – the perception of one's partner's coping as threatening to the self – which deserves specific focus in future research. Finally, determining the couples that might be more likely to experience processes of emotional contagion would be a valuable question for future research.

**Strengths and limitations**

Our findings provide convincing evidence of the circularity between individual grief and the marital relationship, and they offer a novel and deeper understanding of the nature and consequences of interactive processes during bereavement. Despite the value of this

integrative perspective of intra- and interpersonal bereavement, a more in-depth understanding of the mechanisms inherent to the interactive processes between parents as they interact and support each other is still warranted. The qualitative nature of this study allowed for the identification of interpersonal dynamics and for the obtaining of a rich and thorough picture of the lived experiences of bereaved parents, which are crucial for understanding the complexity of adjustment to the death of an offspring. This study also allowed for the description of the internal state of the participants, as well as the association between their emotions and specific perceptions, behaviors and contexts or situations. Furthermore, using the participants own words in describing the results amplified the insight into the thoughts and feelings behind these themes. The use of grounded theory methodology allowed for the generation of a hypothesis grounded in the participants' narratives about the consequences of interaction with partners and the dynamic relational processes of giving and receiving support.

Despite these strengths, some limitations must be acknowledged. One of the main limitations was that the descriptive orientation of the qualitative methodology provided a perception of association or influence, rather than actual association or influence, thus limiting causality. Additionally, the parents in this study were self-selected; thus, our results might not be representative of the experiences of parents who were having major difficulties or of those who might feel more uncomfortable in discussing topics concerning the deaths of their children. Additionally, because the sample included four couples, the narratives came from only one participant in the dyad and not the partner, so it was not possible to draw conclusions about the other partner. When considering future research in this area, it would be important to be aware of – and developing strategies for - the difficulties of recruiting both partners and namely the male partner. Such difficulties might be exacerbated by several factors, such as schedule flexibility, discomfort in expressing emotions, avoidant emotional management strategies, among others. Nevertheless, in studies that involve experiences with significant suffering, such as the present one, the risk for emotional activation might be contrasting with participants, mainly male ones, avoidant coping (Stroebe et al., 2003).

## Clinical implications

These findings could provide valuable information for therapists and counsellors working with bereaved parents. Firstly, psychological interventions should be offered on a dyadic level for couples coping with the death of a child. In a safe context, such as the clinical setting, the benefits obtained from natural support resources, such as the support of the partner, can be adjusted to respond to both parents' needs. Additionally, the mutual impact between parents should be addressed, acknowledging the impact of interdependent strategies for everyone involved, whether or not they are present for treatment/counselling. Similarly, it is also important to incorporate individual-level coping strategies and to help bereaved partners to consider the consequences both for themselves and their partners. Moreover, information regarding the detrimental effects of their grief responses on the marital relationship, as well as the potential protective role of the marital relationship, should be provided to adjust their expectations regarding their partners and their relationships and also to promote parents' self-efficacy in their ability to recover together. It would also be relevant the inclusion in the clinical practice, the assessment of benefits, costs and functions of mutual support between parents, both for the provider and for the recipient. The exploration of similarities and differences in coping and grief manifestations and the origin of these differences should also be focal points of intervention. In particular, focusing on concordance/disparity regarding continuing bonds with the child might have incremental value. Finally, parents should be informed about the possible risks associated with the transmission of emotions between parents, as well as how best to cope with these emotions, so that withdrawal and isolation are not viewed as the only options to self-protect. Exploring and anticipating the impact of witnessing the partner's suffering should not be overlooked. By considering and working on the mutual influences between parents and on the individual-relationship influences, it may be possible to work with the couple system, even if only one member of the couple is involved in therapy.

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# Empirical study V

## Meaning and coping orientation of bereaved parents: Individual and dyadic processes

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# Meaning and coping orientation of bereaved parents: Individual and dyadic processes

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**Abstract**

The present study aimed to examine whether bereaved parents "meaning-made" – defined as results of attempts to reduce discrepancies between the meaning assigned to the death of the child and self and world-views - was influenced by their own and their partner's coping orientations. Coping orientations were conceptualized within the Dual Process Model, which entails loss coping orientation (LO; focus on the loss itself), restoration coping orientations (RO; focus on stressors that come about as an indirect consequence of the bereavement), and a flexible oscillation between both coping orientations. The sample consisted of 227 couples identified through obituary notices in local and national newspapers, who provided data at 6, 13, and 20 months after the death of their child. At all three points of measurement, both partners independently completed the Dual Coping Inventory (DCI) and a scale developed by the authors about meaning-made from the loss. Data were analyzed using a multi-level Actor-Partner Interdependence Model. Results show that the combination of parents' own LO and RO (operationalized through the interaction effect between LO and RO) have a positive effect in parents' meaning-made. Partners' LO have a negative effect in parents' meaning-made. These results highlight the importance of, in the context of parental bereavement, being flexible by using both coping orientations, and of acknowledging the interdependence between partners, namely, the interpersonal process by which partner's coping affect one's meaning-made.

**Keywords:** coping; death of a child; dual process model; interdependence; marital relationship; meaning.

## Introduction

The death of a child can have a powerfully disrupting impact on parents' world views [1] and clinical theorists and researchers have converged in emphasizing meaning-making as a crucial component of the adaptive adjustment process to bereavement [2, 3]. In this context, a question that gains particular relevance is who, and under what circumstances, is most likely to achieve "meaning-made" (an outcome-of-coping variable, defined by Park, 2010) after the loss. Because meaning-made requires energy and effort, personal resources, such as coping orientations (i.e., how people go about dealing with the loss of a loved one), may have an impact on the extent to which individuals engage in such processes and their eventual outcomes (e.g., meaning-made) [4]. This longitudinal study sought to examine the role of coping orientations in meaning-made after child loss.

Adjustment to the loss of a child is not only a matter of coping with individual grief, but also encompasses relational processes. Studies have shown that one partner's coping affects the other partner's adjustment [5, 6]. Research also showed that one partner's support affects the other partner's ability to make meaning from the loss [7-9]. Therefore, the partner's coping orientations represent another important resource that may affect the meaning-making process. Adopting an *interpersonal* perspective that incorporates the examination of interdependence among bereaved couples, this study also sought to investigate whether, besides their own, partner's coping orientations also impact on parents' meaning-made.

In the following sections, we first conceptualize meaning-made, before providing an overview of studies on meaning-made among bereaved parents and its association with psychological and/or physical health outcomes. We then review intrapersonal studies on the association between coping strategies and meaning-made; finally, we review the evidence on the interpersonal impact of meaning-made, that is, how partners affect each other's meaning-made.

### What constitutes meaning?

Meaning has received growing empirical and theoretical attention in the grief literature. Attempting to gain better understanding of bereavement and its consequences, recent

models consider grieving as a process whereby people commonly direct coping efforts toward making sense of their lives, selves, and the world after a loss [2, 10]. Although researchers commonly recognize the importance of meaning in bereavement, there is less consensus on what constitutes meaning. In fact, the different uses and conceptualizations make it difficult to uniformly define meaning [11].

In an attempt to empirically operationalize and examine component parts of meaning, Park [11] engaged in an extensive and integrative review on this topic. This author distinguishes two forms of meaning: meaning-making and meaning-made. Authors have proposed that adaptive adjustment to stressful events involves reducing the discrepancy between the meaning attributed to the event and global beliefs about the world and self [12]. Meaning-making refers to the efforts that people engage to diminish this discrepancy, while meaning-made denotes the changes resulting from such processes. In the present study, we focus on meaning-made as proposed in Park's [11] review, thus defined as changes derived from efforts to increase consistency between the meaning given to the event and global beliefs of the world and the self, that is, the attempts to reframe the loss so that it is less threatening to such beliefs.

These reframing efforts consist of both sense-making and benefit-finding [13]. Sense-making embodies the ability to achieve a subjective and benign understanding of the loss. Benefit-finding entails the capacity to identify benefits or to recognize a "silver lining" in the personal or social consequences of the loss (e.g., enhanced empathy, reordered life priorities and goals, a closer connection to other people) [3]. Although conceptually and theoretically different, benefit-finding and sense-making are similar in that they aim at reappraising the loss in a way that it is less threatening in terms of beliefs about the world and the self [3, 14]. Meaning-made, despite sounding contrived, since it reflects an outcome, is a process of continuous construction, as we discuss next, with meanings that can continuously be reconsidered or revised. Indeed, research has shown that meaning-made is not stable across time. For example, reporting meaning-made at approximately two-and-half months after spinal cord injury did not predict reporting meaning-made approximately five or thirteen months later [15]. Also, Cordova et al. [16] stated that the positive association of the meaning-made-related concept of posttraumatic growth with health outcomes may depend on the time that has elapsed since the trauma [16]. Finally,

in their meta-analytic review Prati and Pietrantoni [17] reported that the study design (longitudinal vs. cross-sectional) significantly moderated the effect of positive reappraisal coping on growth. These findings justify the analysis of meaning-made after loss over time.

**Mental health consequences and meaning-made among bereaved parents**

The death of a child can be particularly disruptive for parents' basic beliefs of predictability, order, and justice in the world [1]. As children often imbue life with purpose and meaning [18], bereaved parents are left with views of the world that reflect meaninglessness, randomness, and uncontrollability [1]. The death of a child may seem utterly meaningless and parents may pose questions surrounding what their lives will be like and who they are without their child [3].

When a child dies, parents are deeply affected, both physically and psychologically [19]. The persistence of their suffering may vary as a function of their struggle to make meaning from their loss. In line with this, prior studies demonstrated that parents' difficulties with making meaning often persist for extended periods of time, and for those who initiate a search for a meaning but made none, the risk for poor adjustment increases substantially [8, 20, 21]. Also, there is evidence of the beneficial effects of achieving meaning-made in bereaved parents, namely regarding their grief intensity [22] and their marital adjustment [8]. These relational beneficial effects of achieving meaning-made are particularly of valuable given the higher risk of marital dissolution in bereaved parents, in comparison to non-bereaved parents [23, 24]. These findings highlight the importance of focusing on the mechanisms underlying this process [25]. The current study focuses on one mechanism potentially contributing to meaning-made: coping processes.

**How is meaning found: The role of coping flexibility**

Recent research has underlined the importance of flexibility in coping and emotion regulation, emphasizing adaptability [26, 27]. As an example, Bonanno and Burton [28] proposed the notion of regulatory flexibility, suggesting that flexible interchanging between emotion regulation strategies that are sensitive to changes in context may be more important than the global use of some strategies over others [28]. Accordingly,

flexibility, - defined as the ability to enhance or suppress emotional expression in accordance with situational demands [29], – was found to be positively associated with posttraumatic growth [30], suggesting that meaning-made may be boosted by a combination of both emotion-oriented strategies and emotion-suppressing strategies.

This idea is congruent with the Dual Model Process of Coping (DPM) with bereavement developed by Stroebe and Schut [31], which highlights the need for a flexible oscillation between loss coping and restoration coping orientations, involving a regulatory process of both confrontation and avoidance. Loss coping orientation (LO) refers to addressing and working through aspects of the loss experience itself, and involves, for instance, crying, yearning, missing and remembering the lost person. Restoration coping orientation (RO), on the other hand, involves addressing the secondary stressors that come about as an indirect consequence of the bereavement (e.g., changing identity and role or mastering new skills) and the process of confronting and dealing with these as they occur in current, ongoing life.

The DPM's specification of emotion regulation processes, particularly through the construct of oscillation, highlights the potential usefulness of this model in analyzing mechanisms underlying meaning-made. Research among bereaved parents has shown that the way parents cope affects their adjustment [5]. For example, using the DPM constructs, Wijngaards-de Meij et al. [6] reported that LO was predictive of higher levels of grief and depression, while RO was related to lower levels of grief and depression. However, to our knowledge, the link between the DPM constructs – loss and restoration coping orientations, and oscillation - and meaning-made, has not yet been empirically tested (the Wijngaards-de Meij et al. study did not operationalize oscillation). Given the DPM proposal that adaptive coping requires both confrontation and avoidance of loss and restoration stressors [31], we will consider loss and restoration coping orientations and, more importantly, the combination of both coping orientations as potentially contributing factors to meaning-made.

Relying on the adaptive contribution of both flexibility and the oscillation processes (proposed in the DPM), we expected that attention to both loss and restoration coping orientations (i.e., oscillation) will positively impact meaning-made of bereaved parents.

Also, we propose an operationalization for oscillation. We predict that those bereaved parents who show no oscillation between LO and RO will adapt more poorly, showing lower levels of meaning-made. If there is oscillation, we predict higher levels of meaning-made.

**The relational context and individual adjustment**

Parents within a couple share the loss of their child and are therefore confronted with their loss as an interdependent dyad [5]. Accordingly, when the couple loses a child, it seems plausible that parents are not only affected by their individual coping, but they are also affected by their partner's coping. Yet, to our knowledge, studies have rarely considered this interpersonal aspect of losing a child. One exception is a study by Wijngaards-de Meij et al. [6] who examined the effect of the loss and restoration coping orientations of both bereaved parents on the adjustment process after the loss of their child. These authors found that the partner's RO was conducive to better adjustment, especially for fathers. Specifically, for fathers, having a partner who had high RO was related to less depression and less severe grief intensity. For mothers, however, the partner's coping was unrelated to their adjustment. In a further study of parents' interpersonal coping processes, Stroebe et al. [5] showed that partner-oriented self-regulation (POSR), defined as the avoidance of talking about the loss and remaining strong in the partner's presence with the intention to protect the partner, increased both partners' grief intensity. Finally, a recent study has shown that joint dyadic coping (coping together and activating shared resources) helped the parents work through their grief as a couple and also individually [32]. Taken together, these findings underline the importance of examining interpersonal effects in couples who lost a child.

To our knowledge, no study has examined such interpersonal processes in relation to meaning-made. This is surprising, especially in light of the evidence showing that meaning-made processes are not purely private activities, but are pursued in the context of interpersonal relationships [2]. It has been suggested that achieving meaning-made following loss is negotiated in the social and family context [2, 33], and that the ability to construe meaning may depend on a supportive and validating social environment [2].

Also, studies have shown that partners' support can serve as a basis for meaning-made in different loss contexts [34], including parental bereavement [7-9].

In light of these findings, it is important to consider individual coping orientations and meaning-made both at the individual and interpersonal level. Therefore, the present study adopts a dyadic perspective, focusing on how both partners' loss and restoration coping orientations shape their meaning-made after losing a child. Given the evidence that meaning-made is a dynamic process that unfolds over time [15, 16], our study adopted a longitudinal design.

### The present study

The aim of the present study was to examine the role of flexibility between loss and restoration coping orientations on meaning-made among parents who had lost a child in a three wave, longitudinal study. Embracing a dyadic perspective and using a prospective, longitudinal design, our study aimed to assess whether:

- Parents' meaning-made is influenced by their own coping, that is, the effect of a person's coping (the predictor) on his/her own meaning-made (the outcome). We hypothesized that the combination of loss and restoration coping orientations would positively impact the meaning-made, more than loss and restoration on their own (Hypothesis 1).
- Parents' meaning-made is influenced by their partners' coping, that is, there is an effect of partner's prior coping (the predictor) on a person's own meaning-made (the outcome). We hypothesized that the combination of partner's loss and restoration coping orientations would positively impact parents' meaning-made, more than loss and restoration on their own (Hypothesis 2).

## Materials and Methods

### Participants

Our dataset overlapped with the datasets of Wijngaards-de Meij et al. [6] and Stroebe et al. [5]. The sample consisted of 227 heterosexual couples who provided data at 6, 13, and 20 months after the death of the child (including young adult children, as long as these children had not started a family life of their own). Parents' age ranged between 23 and 75

years (*M* = 40.72 years, standard deviation [*SD*] = 9.54), 82.2% of the parents had not experienced child loss before, 96.9% were the biological parents, and 19.7% had no other children. Child's age at the time of death ranged between stillborn and 30 years (*M* = 9.85 years, *SD* = 9.93). A total of 67.7% of the deceased children were boys. The causes of death varied greatly, including neonatal death, illness, accident, suicide, and homicide. Answers regarding the expectedness of death were given on a five-point scale (*M* = 1.86, *SD* = 1.35). Higher scores indicate greater expectedness.

**Procedure**

The study was approved by the Research Institute of Psychology and Health's ethical committee at Utrecht University, The Netherlands. In total, 463 couples who had lost their child were identified through obituary notices in local and national newspapers in the Netherlands. Single parents and bereaved parents who were grandparents (i.e., those parents whose deceased child was a parent him/herself) were excluded from this study, resulting in a final sample of 227 couples. Five and half months after the loss, parents were sent a letter and were called by phone to inquire about participating in the study. Written informed consent was obtained from all study participants prior to data collection. The design of the study was longitudinal, with data collections taking place at the three waves of sampling (6, 13 and 20 months post loss).

The non-participation percentage at 13 months and/or at 20 months post loss corresponds to 18.5% of the total participants. We found no differences between respondents and non-respondents at 13 months and/or at 20 months post loss regarding parents' age [$F(1, 442) = 1.44$, $p = .230$], child's age [$F(1, 447) = 0.05$, $p = .816$], meaning-made [$F(1, 446) = 0.003$, $p = .959$] and RO [$F(1, 446) = 1.37$, $p = .242$]. However, parents that did not participate at 13 months and/or at 20 months post loss reported lower LO than those who stayed in the study [$F(1, 446) = 7.65$, $p = .006$].

**Measures**

Parents' and children's sociodemographic data (e.g., age, sex) as well as information regarding the circumstances of the death (e.g., type of death, time since death) were

collected at the first assessment point after their loss. At all three points of measurement, both partners independently completed a set of questionnaires.

### Coping orientations

Loss coping and restoration coping orientations were assessed using the Dual Coping Inventory (DCI), a measure developed for examination of these DPM parameters by Wijngaards-de Meij [35]. The DCI, which is theoretically based on the DPM, assesses two coping scales: loss coping orientation and restoration coping orientation. The subscale loss coping orientation (LO) consisted of three items: "I am occupied with the loss of my child"; "I dwell on my sorrow"; and "I think of our deceased child". The subscale restoration coping orientation (RO) included four items: "I direct my thoughts toward the future"; "Despite everything, I am trying to make the best of it"; "I try to look ahead"; and "I am trying to go on with my life". Answers are given on a five-point response scale, ranging from 1 = *not at all* to 5 = *very much*. In this study, the scores on the average of LO and RO subscales and on the operationalization of the oscillation/flexibility between these two orientations were used. Oscillation, as a dynamic process, is notoriously difficult to measure. Nevertheless, given the importance of the construct, we made an effort to test it, which resulted in the following operationalization: oscillation was operationalized as the combination of both LO and RO, therefore analyzed through an interaction between LO and RO. In this study the Cronbach's alphas across waves ranged from .77 to .82 for LO and from .87 to .92 for RO. A confirmatory factor analysis (CFA) showed a good fit of the DCI in our sample: $\chi^2(12) = 65.82$, $p < .001$, comparative fit index (CFI) = 0.99, Tucker-Lewis index (TLI) = 0.97, and root mean square error of approximation (RMSEA) = 0.06 (90% CI .04/.07).

### Meaning-made

Meaning-made from the loss was assessed using a scale developed by the authors. This scale comprised five items, pertaining to sense-making (e.g., "I think about the loss in one way or another", "I think the loss has a meaning that we do not know"), and to benefit-finding (e.g., "I also see good sides to the loss", "I draw strength from the loss" and "Despite everything I try to derive something positive from it"). An exploratory factor analysis suggested a one-factor structure for the scale, accounting for 61.6% of the total

variance. Answers are given on a five-point response scale, ranging from 1 = *rarely/never* to 5 = *very often*. The Cronbach's alphas in this study ranged from .83 to .84 across waves.

**Data Analysis**

Pearson's correlations between the study variables (based on the average of the variables for all three points of measurement) and correlations for comparison between men and women and across time were computed. All tests were conducted using a two-sided alpha level of 0.05. Analyses of variance (one-way ANOVAs) were used to analyze gender effects and time effects separately for women and men.

Given the non-independence of the members of a couple and the non-independence of the longitudinal measures within one partner, we used the Actor-Partner Interdependence Model (APIM) and multilevel modeling using SPSS 20.0's Mixed Models [36, 37]. In the APIM, actor and partner effects are estimated simultaneously, while controlling for each other. In this study, the effect of a person's prior coping (predictor) on his/her own meaning-made (outcome) is the actor effect, and the effect of partner's prior coping on a person's meaning-made is the partner effect. The need to use the APIM was confirmed by the calculation of the intraclass correlations (ICC) using variance components [37]. Regarding meaning-made, there were significant similarities between waves within the same individual (ICC = .73, $p < .001$) and between individuals within the same couple (ICC = .67, $p < .001$).

Regarding data structure, the data from the three waves were nested within individuals, and data from the two bereaved parents were nested within couples. Time since death was the lowest level (first level), the individual parent was the second level and the couple was the third level. As covariance type, we specified first order autoregressive structure [AR(1)], suggested for repeated measures models [37].

Multilevel analysis has advantages with respect to dealing with missing data, as it leads to unbiased estimates when the panel attrition (individuals who, after one or more measurement occasions, dropped out of the study) is assumed to follow a pattern defined as missing at random [38].

Using repeated cross-sectional associations, we first examined the APIM with main actor's and partner's LO and RO effects included, and the interactive effect between LO and RO of the actor (actor x actor interactions) and of the partner (partner x partner interactions). This model allows the examination of whether it is the combination of actor's LO and RO and partner's LO and RO that determines actor's meaning. To examine whether there were longitudinal effects over the course of 14 months, we conducted residualized lagged analysis [39]. We tested the same model as above, but now used the previous LO and RO to predict following meaning-made (e.g., wave 1 variables to predict wave 2 meaning-made, wave 2 variables to predict wave 3 meaning-made), and controlling for the previous meaning-made. For the sake of transparency, we include findings from both the repeated cross-sectional associations and residualized lagged analysis. Nevertheless, we discuss the findings from the latter analysis in detail, given that it better reflects the regression model inherent to the study aims, that is, to explore the effect of own and partner's coping orientations on one's meaning-made.

In order to increase the interpretability of results, all predictors were standardized to the grand mean. We examined the form of these interactions by plotting predicted values one standard deviation above and below the means of the moderators [40]. Because meaning-made was a skewed variable, we conducted analyses including square-root transformations of meaning-made; the findings remained unchanged. All analyses were repeated controlling for gender, and the findings were practically the same.

## Results

### Descriptive Analyses

The comparison of LO and RO scores of men and women revealed that men reported lower LO [$F(1, 1233) = 137.84$, $p < .001$] and higher RO [$F(1, 1233) = 4.72$, $p = .030$] than women. There were no gender differences regarding meaning-made [$F(1, 1225) = 0.99$, $p = .320$]. The ANOVA comparing the parents' LO and RO scores of the three time assessment points (separately for men and women) revealed that women reported lower LO over time [$F(2, 623) = 10.19$, $p < .001$]. There were no differences regarding women's RO over time [$F(2, 629) = 0.70$, $p = .495$] and regarding men's RO [$F(2, 600) = 1.03$, $p = .358$] or LO [$F(2, 600) = 1.14$, $p = .321$] over time (see Table 1).

**Table 1** I Level of meaning-made and coping at the three time points

| | | T1 | | T2 | | T3 | |
|---|---|---|---|---|---|---|---|
| | | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| Meaning-made | Men | 2.01 | 0.89 | 1.90 | 0.82 | 1.88 | 0.77 |
| | Women | 1.10 | 0.87 | 1.92 | 0.84 | 2.03 | 0.90 |
| RO | Men | 3.70 | 0.89 | 3.59 | 0.82 | 3.60 | 0.84 |
| | Women | 3.48 | 0.94 | 3.51 | 0.95 | 3.59 | 0.91 |
| LO | Men | 3.41 | 0.91 | 3.40 | 0.86 | 3.29 | 0.88 |
| | Women | 4.07 | 0.74 | 3.91 | 0.75 | 3.75 | 0.74 |

*Note*: T1=6 months; T2=13 months and T3=20 months

Regarding the Pearson's correlations for the study variables (based on the average of the variables for all three points of measurement), meaning-made was negatively correlated with LO ($r$ = -.06, $p$ = .038) and positively correlated with RO ($r$ = .24, $p$ <. 001). RO and LO were negatively correlated ($r$ = -.22, $p$ < .001). The correlation between LO and RO was significantly higher among men, comparing to women ($Z$ = 2.15, $p$ = .032). There were no significant differences in the correlations across time.

## Actor-partner analyses

### Parents' coping orientations and parents meaning-made (actor effects)

Table 2 presents the results of the actor-partner analyses for both the cross sectional and the longitudinal model. To examine whether the combination of LO and RO positively impacted meaning-made (Hypothesis 1), the interaction effect between LO and RO of the actor (actor x actor effects) was calculated. The results from the repeated cross-sectional associations revealed that the interaction between LO and RO of the actor was not significant. A main effect for RO emerged, indicating a positive effect on meaning-made ($b$ = 0.20, $SE$ = 0.03, $p$ < .001). Longitudinally, the interaction between LO and RO of the actor was significant ($b$ = 0.07; $SE$ = 0.02; $p$ = .005). These results indicate that the combination of RO and LO was positively associated with meaning-made. No main effects for actor's LO or RO emerged.

**Table 2** I Actor-partner effects in cross-sectional and longitudinal analyses

| | Estimate (*SE*) | *df* | *T* |
|---|---|---|---|
| **Cross-sectional model** | | | |
| A-LO | 0.02 (0.03) | 1071.24 | 0.76 |
| A-RO | 0.20 (0.03)*** | 1126.92 | 7.53 |
| P-LO | -0.05 (0.03)* | 1069.77 | -2.02 |
| P-RO | 0.05 (0.03) | 1136.33 | 1.88 |
| A-LO X A-RO | 0.01 (0.02) | 1042.57 | 0.50 |
| P-LO X P-RO | 0.00 (0.02) | 1019.60 | 0.10 |
| **Longitudinal model** | | | |
| Meaning-made-E | 0.72 (0.03)*** | 533.97 | 28.15 |
| A-LO | -0.02 (0.03) | 741.41 | -0.97 |
| A-RO | -0.04 (0.03) | 749.49 | -1.55 |
| P-LO | -0.06 (0.03)* | 728.45 | -2.55 |
| P-RO | -0.19 (0.03) | 729.23 | -0.77 |
| A-LO X A-RO | 0.07 (0.02)** | 741.58 | 2.83 |
| P-LO X P-RO | 0.02 (0.02) | 742.87 | 0.91 |

*Note*. SE = standard error; Meaning-made-E= earlier values of meaning-made; A-LO = actor loss orientation; A-RO = actor RO; P-LO = partner loss orientation; P-RO = partner RO.
* $p < .05$; ** $p < .01$; *** $p < .001$.

**Simple slopes analysis**

Given the significant actor's LO or RO interaction, we conducted simple slopes analysis to examine whether the association between RO and meaning-made was different for individuals with high levels of LO in comparison with those with low levels of LO. These analyses revealed that at high levels of LO, there was no association between RO and meaning-made ($b$ = 0.03; $SE$ = 0.03; $p$ = .430). At low levels of LO, however, there was a negative association between RO and meaning-made ($b$ = -0.11; $SE$ = 0.04; $p$ = .004), indicating that for a parent who is low on LO, high RO was negatively related to meaning-made (Figure 1).

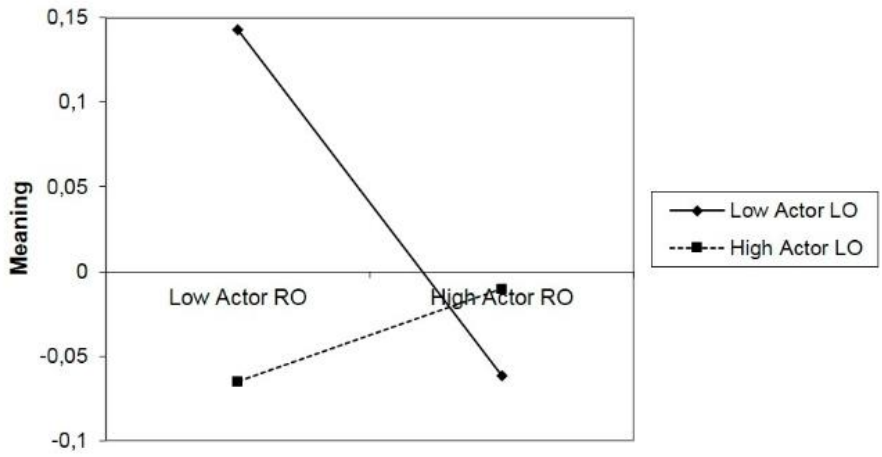


**Figure 1** I Interaction between loss orientation and restoration orientation of the actor (loss coping orientation as the moderator)

In addition, we examined whether the association between LO and meaning-made was different for parents with high levels of RO in comparison with those with low levels of RO. These results revealed that at high levels of RO, there was no association between RO and meaning-made ($b$ = 0.04; $SE$ = 0.03; $p$ = .193). At low levels of RO, however, there was a negative association between LO and meaning-made ($b$ = -0.09; $SE$ = 0.04; $p$ = .013), so for a parent who is low on RO, LO was negatively related to meaning-made.

In sum, taking into account the significant interaction effect, in support of our prediction, the results show that the combination of LO and RO predicted meaning-made after a child's death. Also, these findings indicate that when parents were high in LO, their RO did not predict their meaning-made. Conversely, when parents were low in LO, their RO was negatively associated with their meaning-made. In the same way, when parents presented higher levels of RO, their LO did not predict their meaning-made. Conversely again, when parents were low on RO, their LO was negatively associated with their meaning-made. Lowest level of meaning was present when both LO and RO are high and in combination with each other**.**

Regarding partner effects (Hypothesis 2), partner's LO had a negative effect on parents' meaning-made cross-sectionally ($b$ = -0.05, $SE$ = 0.03, $p$ = .044) and over time ($b$ = -0.06, $SE$ = 0.03, $p$ = .011). The interaction between LO and RO of the partner (partner*partner

interaction) and the partner's RO effects were not significant neither cross-sectionally nor longitudinally, that is, partner's RO and the combination of partner's RO and LO were not associated with meaning-made.

### The effect of gender

Finally, we examined whether the actor and partner effects remained after controlling for gender. Cross-sectionally, the model showed a significant main effect of RO ($b$ = -0.20, $SE$ = 0.03, $p$ < .001), and a marginal main effect of partner LO, ($b$ = -0.05, $SE$ = 0.03, $p$ = .064). Longitudinally, the model also showed an interactive effect of LO and RO ($b$ = 0.06, $SE$ = 0.02, $p$ = .006), and a marginally significant main effect of partner LO ($b$ = -0.05, $SE$ = 0.03, $p$ = .063). When including gender in the model, the results remained the same. In other words, the patterns described above held controlling for the effect of gender.

## Discussion

In this study, we assessed whether parents' meaning-made was influenced by their own and their partner's coping orientation. As hypothesized, we found that longitudinally there was no effect of the coping orientations independently of each other, but there was a positive effect of the combination of LO and RO on meaning-made. This finding is consistent with studies showing the protective role of flexibility, in which this variable was found to be positively associated with posttraumatic growth [30] and with the postulation of the importance of oscillation, the need to confront both LO and RO stressors proposed by the DPM [31]. Regarding LO, research has shown the contribution of conscious and deliberate processing of trauma-related information and emotional states in growth [41]. However, when excessive and ongoing, this emotional processing may take a ruminative form, being intrusive, disruptive, and painful without being productive [42, 43]. Being rigidly loss-oriented, the person continually dwells on the painful aspects of the loss without getting any closer to finding a solution that attenuates their suffering and, possibly, to make a meaning for their loss. Therefore, conscientiously avoiding loss-related information by focusing on the present and future (RO) might be an important strategy to prevent being stuck in unproductive ruminations about the loss. In addition, our findings on the presence of the lowest level of meaning when both LO and RO were high (and in combination with each other), suggest that high levels of LO or RO may actually be

detrimental to the bereaved person. These findings are compatible with the Stroebe and Schut [44] recent suggestion that a bereaved person may encounter more loss- and/or more restoration-oriented stressors than he or she feels able to deal with (i.e. overload), resulting, for example, in feeling overwhelmed.

We also found significant partner effects, which reinforces the importance of interpersonal effects in couples who lost a child, as found in other analyses of this data set [5, 6] and the role of close relationships in meaning-made between partners in a relationship. Specifically, we found that the partner's LO coping had a negative effect on actor's meaning-made. This finding seems consistent with the view that the ability to make meaning from the loss may be influenced by a supportive and validating social environment [2]. Indeed, by being more loss-oriented, the partner may be more focused on his/her individual loss and not be as open and available to support the other partner. Meaning-made is proposed to be potentially constructed and negotiated within the family and couple context [33]. It is possible that LO is associated with the unavailability of the partner, which may help explain the negative effect of a partner's LO on one's ability to make meaning from the loss. This notion is in line with research showing that when partners are in a negative mood, they are more self-focused and less able to provide social support, compared to when they are in a positive mood [45]. An alternative explanation may be that, assuming that partner's LO would be correlated with partner's higher grief, there could be a contagion effect of grief intensity, therefore leading to lower meaning-made in parents. Finally, one could also speculate that this negative effect of partner LO is due to partner LO, which may lead to actor LO (prospectively), that in turn may predict the actor meaning-made. It would be of value to explore these hypotheses in future studies.

This study is not without limitations. We only compared parents within the same culture. As theories and prescriptions for dealing with loss should be sensitive to different cultural contexts [46], in future research, it would be relevant to examine whether the same pattern of results emerges in different cultures. Furthermore, the dual coping and meaning-made measures, although presenting reliable properties in this study, have not been formally validated. Also, the measures may not be ideal indicators of the underlying constructs of interest in this study. For example, although we used a worthwhile operationalization of oscillation, the DCI does not enable its direct measurement. The interaction between LO

and RO pertains to the combination of both coping orientations but does not reflect a dynamic process of switching between these two constructs, as reflecting in the oscillation concept in the DPM [31]. Also, the DCI does not assess a range of secondary stressors associated with the loss, which are involved in RO, focusing instead mainly on visualizing life ahead without one's child. Similarly, the measure of meaning-made focuses mainly on benefit-finding and sense-making and does not capture other components of meaning-made (e.g., identity reconstruction; for a review see 11]. However, in contrast with the wide use of a single-item scale in meaning-made and meaning-making literature [11], we did use a broader and more complex scale intended to grasp the complexity of the meaning-made phenomenon. Nevertheless, the similarity and difference of our meaning-made measure compared to others should be examined in future studies. Finally, future studies should test whether our results hold across different causes of death and ages of the child.

Beyond these limitations, some major strengths of this study are also noteworthy. First, the study comprised methodological improvements compared with previous studies, namely it included a large sample size of bereaved parents, had a low attrition rate, and was longitudinal. Given the results of this study in future research, the measurement moments could usefully be more extended in time. This would also follow from previous studies in the literature showing that some sort of meaning-made can only be achieved several years after the death of a child [8]. Second, our study included both husbands and wives, which provided us with the opportunity to consider the interdependence between partners as well as dyadic effects and processes. Finally, as noted earlier, these results suggest that close relationships may play an important role in fostering meaning-made between partners in a relationship. Our study is the first to outline the interpersonal process by which own and partner's coping affect one's meaning-made.

On a clinical level, if replicated, our findings suggest the need to target – but only where treatment is indicated/appropriate [47] – both partners and incorporate interpersonal components into intervention programs for parents coping with the loss of a child. Fostering reconstruction of a world of meaning would seem of major therapeutic importance [47], particularly given the evidence of the beneficial effects of achieving meaning-made for the reports of grief intensity and marital satisfaction [8, 22].

Our results support the view that parents' interpersonal experience should be taken into account, while at the same time recognizing that reactions are inextricably tied to the bereaved person´s intrapersonal feelings of pain and loss. In other words, our findings suggest the importance of focusing on the impact of the partner's coping on meaning-made, in addition to that of the bereaved person´s own coping orientations. For example, including information on the possible detrimental effects of partner's LO and finding strategies to limit it could be of particular value. Finally, we highlight the need to explore meaning-made beyond first causal attributions or benefit finding, given the evidence that the meanings-made are continuously revisited and altered [47].

In future research, the potential processes by which a partner's coping can influence a person's meaning-made could be usefully investigated. Also, the examination of the effect of own and partner's coping orientations for the dimensions of meaning-made (benefit-finding and sense-making) separately would be important. Research has shown that although related, these components may differ; for example, sense-making is more likely than benefit-finding to be a finite process [43]. In addition, besides separate analyses, these components could also be analyzed at different time points. The findings of Davis et al. [15] suggest that making sense of the death of a loved one is an adaptive process within the first year following the death, while benefit-finding is adaptive after the first year. Also, despite the existence of meaning-made, a better understanding of the quality and content of the meaning-making attempts and the meanings found is also important. Furthermore, future studies could implement a mixed method design, providing quantitative and qualitative data on the mechanisms by which coping orientations contribute to meaning-made. Also, information on how partners communicate (verbally and non-verbally) their coping orientation to each other, for example, examining which behavior (or lack of behavior) drives the effects, could also be valuable. Finally, considering the differences in our cross-sectional and longitudinal findings, future research should give priority to longitudinal studies but also compare them with cross-sectional findings.

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# Chapter IV

# General discussion

This project, encompassing quantitative and qualitative methodologies, aimed at providing a broad and multidimensional understanding of the individual and the dyadic processes after the death of a child. In this final chapter, a brief summary and integrative discussion of the main findings of our research will be presented, in compliance with the general research questions and specific objectives outlined for each study. This chapter aims to portray an integrative overview of the main results, without overlapping the contents of the detailed discussion of each empirical study of the previous chapter, and is followed by a critical comment of the strengths and limitations of the results. Finally, the contributions of our findings for future research and clinical practice will be discussed.

## 1. Summary and general discussion of the main findings

The **first objective** of our research project (phase I) was to obtain a multidimensional view of individual and relational processes inherent to the adjustment of bereaved parents. For that purpose, we performed a systematic review of studies, published in the English language between 2000 and 2014 that explored: (1) the impact of the death of a child in the marital relationship and associated variables (marital adjustment may be dependent on situational, dyad- and individual-level factors); and (2) the influence of the marital relationship in the individual adjustment. The most important findings emerging from these studies can be summarized as follows:

- A child's death can have a cohesive impact on the marital relationship, such as higher closeness between parents, strengthening of the relationship and the relationship acting as a source of support;
- A child's death can also have detrimental effects on the marital relationship, such as marital conflicts/disagreements, diminished marital satisfaction over time, strained relationship, reduced communication with partner and significant distancing;
- Variables that may produce differential outcomes for the marital relationship include situational, dyad- and individual-level factors;
- The risk factors found for the detrimental effects of the marital relationship were: loss of a child by suicide (in comparison with death by motor vehicle crash); loss of

an adult offspring; pre-death relationship marked by instability and conflicts; communication difficulties; misunderstandings derived by incongruence regarding partners' grief response; and lack of previous preparation for coping with trauma;

- The protective factors found for the detrimental effects of the marital relationship were: adaptive communication and openness in the relationship; understanding and acceptance of incongruent grief responses; effective social support; and finding meaning in the death of the child;
- Mixed results were found regarding the presence of other children and incongruent grieving;
- Aspects such as marital quality and the couple's interdependence were found to influence each parent's individual adjustment.

The **second and third objectives** of this research project (phase II) refer to identifying the multitude of determinants underlying parents' individual and marital adjustment to a child's death. Four empirical studies were conducted (two quantitative and two qualitative):

- Empirical study (I): proposing a multidimensional model consisting of sociodemographic/situational, intra- and interpersonal factors associated with posttraumatic growth (PTG);
- Empirical study (II): focusing on the indirect effect of the forms of dyadic coping (DC) in the association between parents' grief response and dyadic adjustment and whether these were moderated by the child's type or timing of death or child's age;
- Empirical study (III): examining parents' perceptions of positive interpersonal coping processes that helped their relationship after the death of their child;
- Empirical study (IV): exploring parents' perceptions of interactive processes and relational dynamics as marital partners, and the interconnection between the individual and relational realms.

The main results from these studies were as follows:

- Contribution of individual, shared and relational variables and processes to parents' individual adjustment to a child's loss:
  - Individual variables:
    - Being a female, having higher levels of resilience and internalized continuing bonds (CB) were found to be associated with higher levels of PTG (Study I).
  - Shared variables:
    - Having lost a younger child was associated with higher levels of PTG (Study I).
  - Relational variables:
    - Stress communication by the partner was associated with higher levels of PTG (Study I).
    - According to parent's views, support within the relationship influenced their individual grief and coping (Study IV).

- Contribution of individual, shared and relational variables and processes to parents' marital adjustment to a child's loss:
  - Individual variables:
    - In the examined mediation models, there was a significant total effect of parents' grief response on dyadic adjustment (Study II).
    - Parents perceived their individual grief and coping to influence the marital relationship, namely communication, conflicts and support (Study IV).
  - Shared variables:
    - Timing of death (before vs. after birth) moderated the association both between grief response and dyadic adjustment and between joint DC

and dyadic adjustment. Specifically, a significant negative association between grief response and dyadic adjustment was found for deaths that occurred after birth. There were also significant conditional indirect effects through joint DC when the death occurred either before or after birth, although the effect was stronger for the latter (Study II).

- Relational variables:
    - Significant indirect effects of parents' grief response on dyadic adjustment were found through stress communication by oneself and by the partner; positive DC by the partner; negative DC by the partner; and joint DC (Study II).
    - Parents' perceptions of interpersonal coping processes that positively influenced their relationship involved search for meaning, communication with the partner and care-in-relation. Search for meaning encompassed reframing the partners' different timings in coping and grief, reframing regarding the relationship difficulties (perceived as temporary and normal) and developing shared believes about their future, life and their child. Communication with the partner involved requesting and providing direct feedback, being attuned to the partner's indirect feedback and learning from each other by exchanging information and providing advice. Care-in-relation had the function of protecting the partner and the relationship and involved mutual support and conflict management (recovering from and prevention of conflicts; Study III).

The **fourth objective** of our research project (phase III) was to examine the interdependence among bereaved couples. This objective was addressed specifically in Study V, which aimed to test how one's individual coping orientations influence the partner's meaning-made. Regarding the results, the combination of parents' own loss-orientation (LO) and restoration-orientation (RO) had a positive effect in parents' meaning-made, whereas partners' LO had a negative effect.

Figure 1 presents a general description of the project findings; a detailed description and discussion of the results are described in the appropriate section of each empirical study presented in the previous chapter.

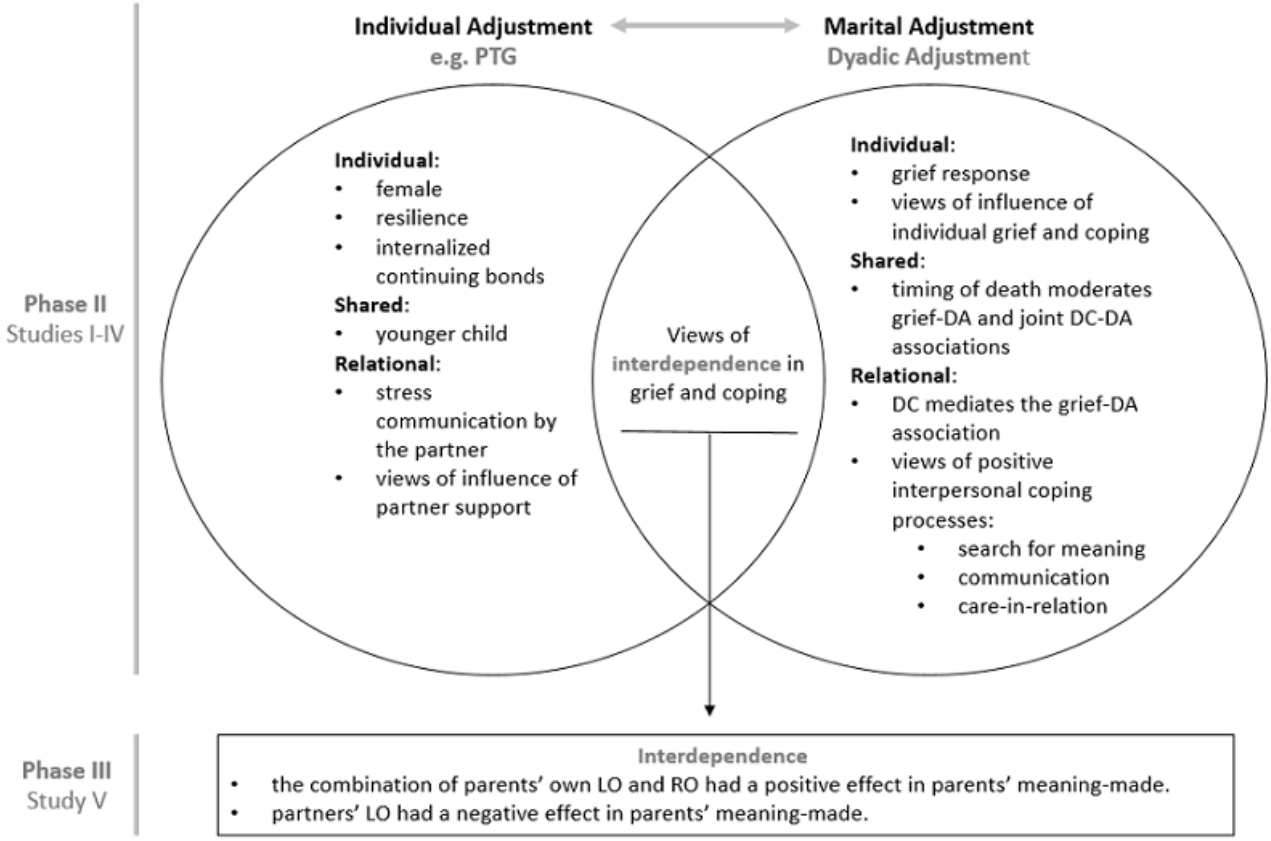


**Figure 1** | General description of findings. *Note*: DC = dyadic coping; DA = dyadic adjustment; LO = loss coping orientation; RO = restoration coping orientation.

## 1.1. Death of a child as a context of mutual influences of the individual and marital adjustment

When a child dies, bereaved parents must address the changes in their relationship as well as the way these changes affect their individual adjustment. By summarizing the current knowledge on these two perspectives, our systematic literature review provided an important contribution for the current understanding of the marital adjustment after the loss of a child by showing the (1) multidirectional relation between grief (and individual

adjustment) and the marital relationship and (2) allowing for the identification of the risk and protective factors for marital disruption.

Regarding the first contribution, there is common understanding that the death of a child may affect the marital relationship, yet studies have yielded inconsistent findings regarding the direction of the association. In fact, some studies have found that the death of a child can contribute to the disruption of the relationship (e.g., Lyngstad, 2013), while others highlighted the possibility of resiliency of the marital relationship after such a loss (e.g., Barrera et al., 2009). Consequently, it is important to dispel the myth of the inevitability of divorce (Schwab, 1998), although the death of a child poses a serious risk to the marital relationship. In addition, there is also evidence in the literature on the potential protective role of the marital relationship after the loss of a child. Indeed, aspects such as marital closeness (Song, Floyd, Seltzer, Greenberg, & Hong, 2010), joint DC (Bergstraesser et al., 2015) and couple's interdependence (Wijngaards-de Meij et al., 2008) were found to influence parent's individual adjustment.

In addition, given the inconsistent findings on the effect of the death of a child on the marital relationship, the variables that may produce differential outcomes for the marital relationship were examined. These include situational factors, such as the cause and type of death, and the child's age at the time of death; dyad-level factors, such as surviving children, pre-death characteristics of the relationship, communication and incongruent grieving; and individual-level factors, such as the family of origin's processing of trauma, social support, religious affiliation and finding meaning. This examination of the variables affecting the marital adjustment allowed for the delineation of risk and protective factors for marital disruption. As such, this review contributed to systematize not only the information about which type of couples are especially at risk, but also which variables seem to protect parents from marital disruption.

In relation to the methodological trends in the reviewed studies, we noticed an unwarranted proliferation of studies with cross-sectional designs, small sample sizes, selection bias, high heterogeneity within samples, attrition rate, with lack of a control group, a preponderant focus on mothers, and neglecting couples' processes and cultural diversity. Also, in the quantitative and mixed studies, there was also an inconsistency in the

measures that were used, and some studies used non-standardized questionnaires and single-item measures. Furthermore, some of the studies included in our review considered ethical aspects of conducting a study with a vulnerable population such as bereaved parents, prioritizing parents' care over data. In order to obtain more robust findings, the methodological and statistical approaches of our empirical studies[6], intended to overcome some of the outlined pitfalls in existing research.

This systematic literature review inspired the outlining of our subsequent empirical studies. First, the evidence on the marital relationship as a source of support brought up the question of which dyadic processes (in combination with other factors) were inherent to the protective role of the relationship on parents' individually (Study I). Second, the evidence for the cohesive effects of the death of a child on the marital relationship motivated us to explore both quantitatively and qualitatively the protective processes explaining the impact of the death of a child and grief on the marital adjustment (Studies II and III). Third, the complex and bidirectional association between grief (and individual adjustment) and the marital relationship stimulated us to explore the perceptions of interactive processes as marital partners (Study IV) and interdependence in coping in bereaved couples (Study V).

## 1.2. "Together it is easier to carry on": The impact of relational dynamics in parents' individual adjustment

When parents are able to grieve together and to obtain comfort from one another, their relationship can serve as a source of stability and support, which are integral components of adjustment to bereavement (Barrera et al., 2009; Gilmer et al., 2012; Song et al., 2010). Parents might have the unique ability to empathize truly with the experience of one another. Therefore, the partner might be considered as the most well-equipped person to provide support (e.g., Rosenblatt, 2000). The findings of our qualitative study (Study IV) confirmed the protective role of the relationship on parents individually. Bereaved parents perceived that the experience of this traumatic loss would have been even more difficult

[6] This information is described in more detail in the topic "Strengths and limitations of the research project".

without the support of the partner. They emphasized the relevance of the partner's support in both everyday life and overall individual adjustment to the loss.

Furthermore, close relationships, characterized by relationship quality, self-disclosure and support seeking, can support PTG (e.g., Hungerbuehler, Vollrath, & Landolt, 2011; Lindstrom, Cann, Calhoun, & Tedeschi, 2013; Polatinsky & Esprey, 2000; Prati & Pietrantoni, 2009). This was confirmed in Study I, as DC emerged as a key interpersonal factor contributing to PTG within a multidimensional model that also encompassed sociodemographic/situational and intrapersonal variables. In particular, stress communication by the partner (one's perception of the ability of the partner to communicate the stress experience and to request emotional or practical support) was significantly associated with increased PTG. This finding is in agreement with past research showing an association between disclosure about highly stressful events and growth (Taku, Tedeschi, Cann, & Calhoun, 2009). Indeed, as shown in our systematic review, it has been shown that self-disclosure and open communication between bereaved couples may enhance feelings of closeness and understanding, which in turn may positively influence both partners, namely promoting growth.

In addition, the findings of qualitative study IV provided further insight by focusing on giving support, in which partners could experience both positive and negative consequences. Supporting the partner seemed to have helped parents to regulate their emotions, in agreement with the evidence suggesting that supporting a partner has the secondary goal of reducing one's own stress (Bodenmann, 1995). On the other hand, parents also perceived that supporting the partner was burdening, especially when they perceived mutual support to be imbalanced, eliciting feelings of inequity (Ybema, Kuijer, Hagedoorn, & Buunk, 2002) as well as when they perceived themselves as unable to help the partner (Schwab, 1992).

Mutual support and DC between bereaved parents may be especially important for parents individually, as they may be able to truly understand each other's experience. However, it is important to understand the costs to benefits relation specifically for the provider of support, to whom a balance of the own and the partner's needs is deemed essential in the shared and difficult context of grieving for the loss of a child.

## 1.3. "Resources are so limited on both sides…the option is silence": The impact of individual grief in the marital adjustment

When a child dies, parents can be deprived of their individual resources. Parental grief, particularly when severe and enduring, often overwhelms individuals (Barrera et al., 2007; Rando, 2000), which has large implications for relationship satisfaction (Lang & Gottlieb, 1993; Vance, Boyle, Najman, & Thearle, 2002) and couples' togetherness (Malkinson & Bar-tur, 2005). Accordingly, parents might be too distressed to support each other or handle their partner's intense grief (Rosenblatt, 2000). Consequently, their distress may hinder the parents' mutual support and influence their perception of their partner's support, thereby influencing their dyadic adjustment. In our studies, we considered both dyadic and individual coping processes, which could account for the individual grief-marital adjustment link.

### 1.3.1. The role of dyadic and interpersonal coping

In Study II, we hypothesized that DC could mediate the association between grief and dyadic adjustment. Although indirect effects through negative DC (by the partner) on dyadic adjustment were found, our results prominently suggested that the partners' efforts (together or towards the partner) to engage in positive DC strategies constituted important mediators in the grief-dyadic adjustment link. Specifically, our findings showed that positive DC by the partner, stress communication (by oneself or by the partner) and joint DC can function as important marital resources in the parents' dyadic adjustment, which are in line with prior research (Bodenmann et al., 2006; Regan et al., 2014; Song et al., 2010). Bereaved parents' face together their grieving for the loss of a child (Rosenblatt, 2000). Positive perceptions of the relationship could be influenced by perceiving this event as a shared experience, which they communicate openly, and the partner as someone who is trustworthy, close and supportive (Bodenmann et al., 2006; Donato, Iafrate, Bradbury, & Scabini, 2011; Rosenblatt, 2000). This could explain the roles of these forms of DC as important mechanisms through which the negative association between grief response and dyadic adjustment weakens.

In addition, who could be better than the parents themselves to inform us (clinicians) on what helps their marital relationship after the death of their child? In the qualitative Study

III, we examined the bereaved parents' perceptions of positive interpersonal coping processes. Main findings suggest a hypothesis for coping that involves processes of searching for meaning, communication, and care-in-relation (protecting the partner and the relationship).

Partners who are concurrently grieving for the loss of their child, may elicit several stressful interactions; the meaning of these interactions has been assessed both individually and collectively (Boss, 2002; Lazarus & Folkman, 1984). As well, research with bereaved parents has indicated that if the parents knew more about their partner's thoughts and feelings, it would be easier for them to recognize and respond to their partner's distress signals (Mikulincer & Shaver, 2005) and to be supportive (Rosenblatt, 2000). Exchanging feedback/ advice and searching for meaning (in the relationship difficulties and the partner's behavior and coping) was important to their relationship, as it enabled empathy and acceptance toward each other, commitment in each other's well-being and a sense of communion derived from a shared narrative (DeLongis & O'Brien, 1990; Riches & Dawson, 1996). Also, acknowledging, respecting and adapting to each other's needs was possible through care-in-relation, which involved, for example, the ability to change and to be flexible, which has been stressed as crucial to restore order, safety and stability in the family after trauma (Walsh, 2007), and is one of the characteristics that distinguishes functional from dysfunctional couples (Olson & Gorall, 2003).

### 1.3.2. The role of individual coping

Rigid coping strategies have the potential to be harmful not only for the individual (Stroebe & Schut, 1999), but also for the relationship. In our qualitative Study IV, the results showed that being more stable and able to process the loss in a bearable fashion, facilitates the mutual support. The opposite was also true, that is, the parents' rigid loss-oriented coping and consuming grief (e.g., general discouragement with life after the child's death, intrusive memories, and relentless ruminative thinking) contributed to estrangement, conflicts and difficulties in communication and mutual support.

Flexibility between LO and RO is key, as proposed by the Dual Process Model (DPM; Stroebe & Schut, 1999), and was confirmed by our findings on the protective role for individual adjustment of the combination of both coping orientations (Study V). The

rigidity of the grieving process and of the focus on the loss and on the relationship with the deceased child flooded the parents' lives, leaving no room for the partner or the marital relationship. Also, having a rigid LO can make it more difficult to receive help and support by the partner, potentially causing frustration and estrangement in the partner that tries to support.

Furthermore, having a partner with a rigid coping orientation could enhance the perception of differences in needing to confront vs. distract from grieving, which have been argued to potentially lead to incompatibility in the marital relationship (Stroebe & Schut, 2015). However, as the results showed in Study III, the parents' reframing of their differences from problematic to complementary allowed them to be flexible in their roles, use each other's strengths and receive comfort from each other (Gilbert, 1989, 1997).

### 1.4. "The pain of seeing his suffering": Interdependence and interactive processes

As an interdependent dyad, partners emotionally, cognitively, and behaviorally affect each other (Stroebe et al., 2013; Walsh & McGoldrick, 1991). Hence, when a child dies, the parents are not only influenced by their individual coping, but are also influenced by their partner's coping. Wijngaards-de Meij et al. (2008) confirmed this interdependency between bereaved parents, showing the association between the partners' adjustment (grief and depression) and their own as well as their partners' coping (LO or RO).

Meaning-made after the loss can be constructed in the social and family context (Neimeyer, Prigerson, & Davies, 2002) and partner's support can function as a foundation for meaning-made (Polatinsky & Esprey, 2000). Indeed, in qualitative Study III, the results demonstrated that one example of positive interpersonal coping was the interactive co-construction of shared meanings (namely, regarding life, the child, and the future as a couple), through learning from each other, exchanging beliefs, offering advice and helping each other reframe their views. Consequently, the partner's coping orientations may represent another important resource that may affect the meaning-made process.

In our longitudinal study V with bereaved couples the results showed that, besides their own, the partner's coping orientations significantly impacted the parents' meaning-made. Specifically, the results showed that the partner's LO coping had a negative effect on the

parent's meaning-made. We hypothesize that the negative effect of a partner's LO on the ability to make meaning from the loss could be explained as a contagion effect of grief intensity (assuming that the partner's LO would be correlated with the partner's higher grief). Accordingly, in qualitative Study IV, we presented parents' narratives on interdependence and patterns of emotional transmission within the couple, such as emotional contagion. Emotional contagion in parents consisted of the activation of one's own suffering when facing and witnessing the partners' suffering (and coping), which is a pattern of emotional inter-dependence that has been previously emphasized (Hooghe, & Neimeyer, 2013; Schwab, 1992).

### 1.5. Child's loss: Impact of the shared variables on a shared context

Research has shown that the parents' individual and marital adjustment may be dependent on variables pertaining to the circumstances of death (cause and unexpectedness of death) and child characteristics (e.g., child's age; Murphy, Johnson, Wu, Fan, & Lohan, 2003; Wijngaards-de Meij et al., 2005). The impact of these shared variables were analyzed both in the individual and relational context.

In Study II we explored the importance of DC for the marital relationship of bereaved parents and its dependence on the type of death (e.g., natural vs. violent), timing of the child's death (before vs. after birth), and child's age (younger vs. older than 18 years of age). The timing of death moderated the direct effect of grief response on the dyadic adjustment and the indirect effect through joint DC. These findings substantiate the idea that deaths before and after birth involve different processes and difficulties. Specifically, deaths occurring in the gestational period may imply fewer remembrances of the child to use as a way of grieving, a sense of biological failure, and the under-recognition of society of the complete range of such a loss (Wallerstedt, Lilley, & Baldwin, 2003).

In addition, regarding the results of Study I, the child's age was significantly associated with the parents' individual adjustment, as previously argued in the literature (e.g., Wijngaards-de Meij et al., 2005). Specifically, parents who lost a younger child reported higher levels of PTG, supporting previous findings showing a negative association between the child's age and personal growth (Scholtes & Browne, 2015) and highlighting additional complexities in parental bereavement when an older child dies (Wijngaards-de Meij et al.,

2005). In comparison with infant deaths, parents of older children may have stronger attachment bonds (Rogers et al., 2008), given the increased time and opportunity to make an extensive emotional investment in the relationship with the child (Klass, 1993).

### 1.6. Continuing bonds: Individual and dyadic coping processes

Continuing bonds with the child, or the continued connection after death, has been proposed as an integral component of adjustment to bereavement. Research has supported the adaptiveness of internalized CB (using of the deceased as an autonomy-promoting secure base), that have been found to be positively associated with personal growth (Field & Filanosky, 2010; Scholtes & Browne, 2015). In Study I, our findings also showed a positive association between internalized CB and PTG, which could be explained by the previous argument that this form of CB entails the acknowledgement of the reality of death and the use of the child as an internalized secure base.

Additionally, the function of CB as an important resource for bereaved parents expands to the relational context. Past studies stated that the joint maintenance of CB between parents helped them work through their grief both individually and as a couple (Bergstraesser et al., 2015). Our results from Study III confirmed this hypothesis; one important positive interpersonal coping process highlighted by the parents was the joint efforts and views on the way of keeping the child present in their lives in a different but meaningful way. However, this converging on CB was not always possible, as it was highlighted in the parents' narratives in our Study IV. Parents described the negative impact of some contrasting coping behaviors of the partners that often consisted of efforts to keep the child present in their lives. Thus, a balance between self and other's needs is of the essence and protects the relationship (Bodenmann, 2005). Figure 2 presents a conceptual integration of the research findings.

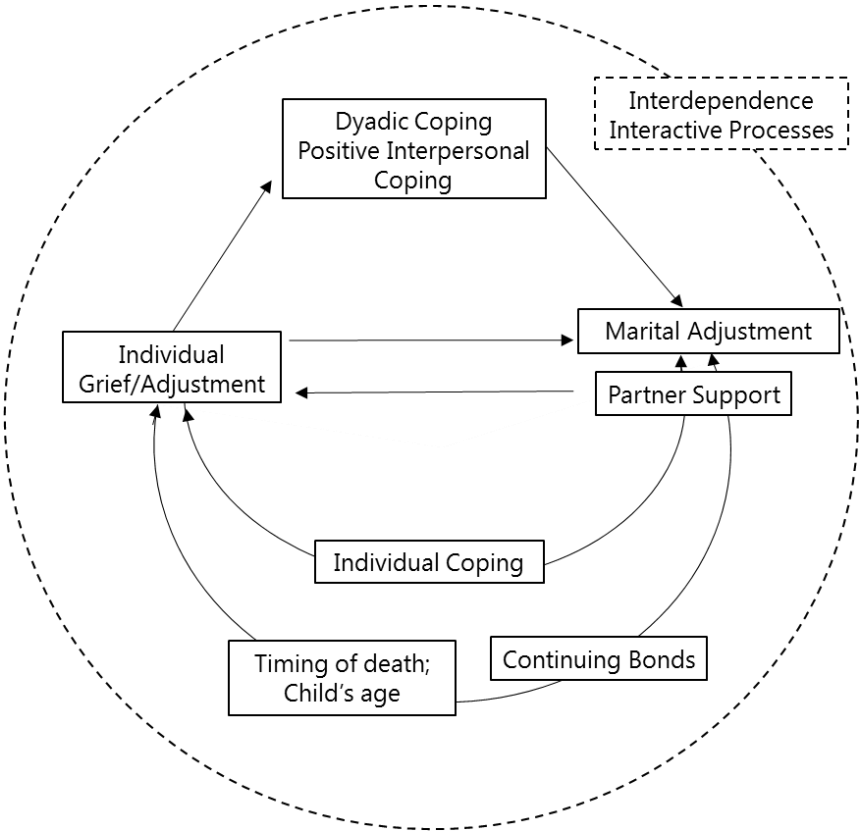


**Figure 2** | Conceptual integration of findings

## 2. Strengths and limitations of the research project

The present research project has a number of theoretical and methodological strengths, hence contributing for a better understanding of the adjustment to a child's death both individually and maritally. In this section, we present the strengths of the research project and, as a special component of its strengths, we also highlight the contributions of the project for participating parents. Finally, the limitations of the project are acknowledged.

### 2.1. Strengths

#### 2.1.1. Theoretical

Regarding the innovative contributions to the literature, our empirical results may contribute to the refinement of the theoretical bereavement models and to convert them into evidence-based guidelines for care of bereaved parents. We provided an integrative perspective of intra- and interpersonal factors and processes associated with more

adaptive individual and marital adjustment, enhancing knowledge on processes that could eventually ease the individual and dyadic distress after the child's death. In order to achieve this, we acknowledged and welcomed the variability of individual and dyadic trajectories.

On an individual level, in contrast to the usual focus on negative outcomes of bereavement (e.g., depression), we innovatively emphasized the wide-ranging types of factors contributing to positive outcomes and predictors, which sustained our progression from psychopatho-logical frameworks to the study of processes that account for growth and meaning-made. These alternative pathways are of major importance to the non-pathologizing of bereaved parents, thus avoiding more aggressive psychiatric diagnosis or drug treatment, the utility of which is questionable (Bui, Nadal-Vicens, & Simon, 2012).

On a dyadic level, we elaborated on the protective role of relationships for the individual adjustment, by focusing on a newly addressed factor in the context of parental bereavement - dyadic coping – and by being the first study to outline the interpersonal process by which own and partner's coping affect one's meaning-made. In addition, our qualitative findings, in particular, provide significant ground-breaking descriptions of: (1) specific mechanisms that bereaved parents use when coping as a couple with the death of a child, as well as (2) how and when certain interpersonal interactions (e.g., talking about the child) between partners impact the marital relationship.

### 2.1.2. Methodological

Regarding methodology, we underline the value of a qualitative approach in obtaining a rich and thorough picture of the lived experiences of bereaved parents, which are crucial to understanding the complexity of adjustment to the death of an offspring. Efforts were made to ensure the credibility of the qualitative findings by providing transparency to the analytical process through which the concepts developed (Charmaz, 2012). Furthermore, we used a well-established and rigorous methodology (grounded theory methodology) that, through first-hand data, grounded in the participants' narratives and fine-grained analysis, allowed for the generation of a hypothesis of interpersonal coping processes and of the dynamic relational processes of mutual support and interactions with the partner.

Also, regarding the collected quantitative data, our study was strengthened by the careful selection of a variety of questionnaires, allowing for a comprehensive and multi-dimensional approach to parental bereavement as well as by including individual (positive and negative) and dyadic indicators.

Furthermore, in Study V (phase III) we included a large sample size of bereaved parents, assessed longitudinally as well as at a dyad-level. The gathering of the perspectives of two members of the couple (in coping processes and adjustment outcomes) was grounded in the acknowledgement of the non-independency between two members of a couple (Kenny et al., 2006), and enabled us to examine the interdependence, dyadic effects and processes, thus providing further insight into the complexity of the couple systems.

Finally, the inclusion of advanced statistical techniques, such as regression-based moderated mediation analyses in Study II, allowed moving from simple descriptions of outcomes to the analysis of potential direct, indirect and conditional mechanisms underpinning the marital adjustment processes of bereaved parents. Also, we used adequate statistical techniques specifically designed for dependent data, namely the Actor Partner Interdependence Model (APIM) in Study V, which enabled us to identify not only actor effects, but also partner effects, while controlling for the effects of the parents him or herself.

### 2.2. Contributions to participating parents

The qualitative semi-structured interviews, particularly, may have had some usefulness for the participating parents. Although there was a significant risk of distress for the majority of the participants, parents reported that the experience of being able to talk about their child's death was liberating. Some parents also said that it was the first time that someone had showed an interest in trying to understand their experience and gave them the opportunity to talk about this life-changing event. Overall, there was a sense that parents sought a chance to share their experiences and help other bereaved parents. These perspectives are in line with previous research stating the benefits in participating in research (e.g., Dyregrov, 2004; Hynson, Aroni, Bauld, & Sawyer, 2006). As Rosenblatt (1995) stated, bereaved people can gain tremendously from talking with someone who is willing to listen to them and who takes their stories seriously. Coherently, Nadeau (2001)

emphasized that the process of sharing the death experience helped the bereaved to cope, especially the ones that had scarce opportunities to share the death experience with others, as was the case with the bereaved parents that participated in our study. However, this would not be the case had we not been strictly careful with minimizing the distress of participating parents in our ethical procedures. Accordingly, we consider that the ethical considerations outlined in this project can be useful for researchers and ethics committee members when planning future research with bereaved parents and other individuals that may be vulnerable due to grief/trauma-related experiences.

### 2.3. Limitations

Notwithstanding the aforementioned strengths, some limitations must be acknowledged and considered in the interpretation of our research findings.

Firstly, the sample for phase Ⅱ of this research project was purposely collected in one time point assessment. Therefore, the studies' cross-sectional design preclude any conclusions regarding causal relationships between the study variables and, accordingly, the implications of the results reported herein should be interpreted only in terms of inter-relationships among the variables at a single point in time.

Additionally, in phase Ⅱ, the sample is predominantly female. Though this is not uncommon in bereavement research (e.g., Cacciatore, 2007), the under-representation of fathers in our sample precluded the examination of gender differences on parents' coping processes and adjustment outcomes. In spite of focused efforts to garner additional fathers, only few came forward to volunteer, even after snowball sampling attempts (e.g., all mothers were asked to inform their partner about the study and to reinforce the importance of his participation). Several factors could however account for the non-participation of fathers. For example, in studies that involve experiences with significant suffering, such as the present one, there is a risk for emotional activation. This may be conflicting with participants with avoidant coping, which has been shown to be more characteristic of males (Stroebe et al., 2003). Moreover, the participants themselves could have restrained the partners from collaborating. This could have had the objective of protecting the partner by forewarning his/her emotional activation, a concept in the literature known as protective buffering (Manne, Norton, Winkel, Ostroff, & Fox, 2007).

However, due to the inability to contact both partners, it cannot be determined if that was the case. Other difficulties in participating may include schedule inflexibility and cultural aspects. For example, in the Portuguese culture, the marital relationship is seen as a private affair with little openness to others outside the couple, which might make Portuguese people in general, and Portuguese men in specific, particularly skeptical in participating in this type of research (Vedes et al., 2016).

Another limitation relates to the inclusion of both members of the couple in phase II, that though warranted, was rather limited. The results of dyadic coping were based only on the perceptions of one member of the couple. This limited our understanding of the association between grief response and dyadic coping and compromised the examination of the mutual influence and interdependence within the dyad (actor-partner effects), which are important components of dyadic coping (Bodenmann, 2005). Also, the interviews were analyzed at an individual level, and thus we were not able to establish whether the perception of a partner's coping process as positive matched the perception of his/her partner. Given the aforesaid limitations in phase II of the project, and to overcome these limitations, we used longitudinal dyadic data collected in the context of a previous research project on the impact of loss of a child on bereaved couples (phase III).

Furthermore, there were limitations that pertained to both phase II and III of the project. A first set of limitations relates to the non-probabilistic sample collection method (convenience sampling methods were used), which resulted in a limited representativeness of the sample. In phase II, this resulted mostly from the self-selection of parents; therefore, our results may not be representative of the experiences of parents who were having major difficulties or of those who might feel more uncomfortable in discussing topics concerning the death of their children. Also, given that parents self-selected themselves to participate, we do not have a response rate for the sample in phase II. While in phase III parents were not self-selected, the reasons for participation refusal were not always systematically recorded. Nevertheless, in both phases of this project significant efforts were made to recruit participants from several contexts, namely via hospitals across the country, grief-related websites or groups in social networks (phase II) as well as obituary notices in newspapers (phase III).

Furthermore, both in phases II and III, the sample was heterogeneous regarding the death and child characteristics (e.g., circumstances of death or age of the child at death). However, the participation was not limited to specific child or death characteristics, in order to include a wide-range of experiences, therefore allowing to find patterns, regardless of its heterogeneity. Despite this limitation, these factors were considered in the present analyses; for example: (1) children's age, unexpectedness and time since death were included as predictors in the regression model in Study I; and (2) type and timing of death, as well as child's age were included as moderators in the mediation model in Study II.

The research population of this project is demographically diverse within (e.g., on factors related to the circumstances of death) and between samples. Specifically, we used data about the experience of parental bereavement from two different sources – one was collected in Portugal and the other in The Netherlands. As theories for coping with loss should be mindful of different cultural contexts, the results reported must be considered in the context of the cultural norms of both these countries. Despite this apparent limitation, a much richer pool of data has been accumulated, which would have not been the case if we would have used only one of them. On the other hand, as previously stated, the longitudinal dyadic data collected in the context of the Dutch project (phase III) was used essentially to soften the limitations from the cross-sectional dataset (phase II).

Moreover, we were not able to have a measurement moment before the child loss. Therefore, we do not know if, for example, the level of dyadic coping of the parents partly reflects what was already present before the loss. Nevertheless, we believe that parents have the perception of change comparing to a time previous to the loss, and this was addressed particularly in the qualitative studies. Another limitation could be the non-inclusion of a non-bereaved control group, which would clarify if the associations found in the study between predictors and the outcome variables were unique for bereaved couples or were also present for parents/couples in general. Nevertheless, this would have been only applicable for dyadic coping or marital adjustment scores as, for obvious reasons, control groups (parents who did not lose a child) could not be used as comparison for grief or PTG resulting from the event. However, not using pre-loss measures or control groups does not nullify the factors and processes that have been

shown to contribute to marital and individual adjustment within the group of bereaved parents.

Finally, some cases were excluded from our dataset in phase II because of missing data that were not completely random (e.g., as the result of participants dropping out of the study before completing the last questionnaires in the assessment protocol). We opted for case deletion when there were missing values, since in imputation (i.e., the practice of filling in missing items), the individual mean score substitution could have introduced bias due to the fact that the number of observable items drops while the variance of the scale tends to increase and its reliability tends to decrease (Schafer & Graham, 2002). Nevertheless, our rate of missing values was minor; most of the samples were collected online and in the survey participants could not go forward with blank spaces. Regarding Study V, we used multilevel regression models (such as the Actor-Partner Interdependence Model - APIM), which do not assume equal numbers of observations, or fixed measurement occasions. Therefore, respondents with missing observations (panel attrition assumed to follow a pattern defined as missing at random - MAR) pose no special problems here, and all cases can remain in the analysis (Hox, 2010).

## 3. Future directions for research

We believe that our study provides an important contribution to a better understanding of adjustment outcomes and processes in parental bereavement, particularly by clarifying the current knowledge on this topic, and by enabling the refinement of the existing conceptual models of individual and couple's adjustment. Opportunities for future scholarly inquiry are plentiful, as present in the recommendations we underlined in previous chapters. However, some of the pathways that seem most important to future research in the area of parental bereavement deserve further reference.

### 3.1. Designing longitudinal, mixed-methods and dyadic studies

The findings from our empirical studies in phase II provided novel insights into a number of individual, shared and relational variables and processes that were associated with individual and marital adjustment outcomes, although measured at a certain point in time (due to the studies' cross-sectional design). However, though time- and resource-

consuming, a comprehensive longitudinal appraisal of the parental bereavement experience is crucial for the enhancement of knowledge, support and therapeutic interventions.

Accordingly, large prospective studies are required: (1) to clarify the directionality of the associations between these variables and adjustment outcomes; (2) to examine the reciprocal influences among couple members over time (over and above the ones tested in phase III: impact of partner's coping in one's meaning-made); and (3) to determine if these individual and family adjustment processes are stable over time or whether they evolve across the course of parental bereavement.

Furthermore, in this research project we used a multi-method approach that encompasses individual and relational/interpersonal dimensions. Although this is essential to provide a comprehensive analysis of the experience and coping of bereaved parents, the qualitative and quantitative findings were not combined in any of the empirical studies. Therefore, future research should adopt mixed-methods designs, namely those using an integrative logic, where each method would be intended to produce data on a specific part of a whole, or a multi-dimensional logic, where the different questions and methods are explored in a collective manner, resulting in multi-nodal explanations (Mason, 2006b).

Future research should also adopt a multi-informant approach by engaging both members of the couple and, in that way, including the fathers' perspective. It is essential nevertheless to acknowledge the difficulties of recruiting both partners, specifically the male partners (as observed in this study). Future studies could explore the reasons for non-participation of fathers and elaborate on strategies that may diminish the general lower male participation rates that are, unfortunately, widely common in bereavement research. For example, future studies may be designed to aim the gathering of material about fathers' lived experience of bereavement not solely from traditional interviews per se, but from alternative sources such as narratives, blogs, or social media.

### 3.2. Replicating and complementing our findings

The replication of our studies would be important to assess the consistency of our results as well as to complement our conclusions. Specifically, the findings from the empirical

studies II and III were generally aimed at clarifying the influence and the description of interpersonal coping processes. Future clinical trials or treatment-outcome studies could examine the efficacy of interventions aimed at improving and promoting positive dyadic/interpersonal coping processes, in order to promote the resources that bereaved couples could use to help each other. Also, the processes and variables that have been identified as risk factors for marital strain could be used in the selection of participants for preventive interventions for bereaved parents. Doing so would be of major value, primarily due to the detrimental effects that the death of a child can have on the parents not only individually but also as a couple.

Furthermore, in addition to positive and negative processes in interpersonal coping, future research should continue to outline positive indicators in the adjustment to the loss of a child, such as posttraumatic growth or meaning-made. Among the important questions concerning these positive indicators that remain unanswered, one is whether these indicators represent essentially a positive cognitive viewpoint regarding the traumatic event or if these indicators reflect considerable, observable behavioral changes in the person's life (Zoellner & Maercker, 2006). For example, measures such as the Posttraumatic Growth Inventory rely on participants' self-report of how much and in what ways they have changed following a traumatic event, thus pertaining to the subjective – and perhaps illusory – nature of PTG (Hobfoll, Canetti–Nisim, & Johnson, 2006; Zoellner & Maercker, 2006). Therefore, in future research, it is important to elaborate on moderators between grief-PTG associations. For example, Hobfoll et al. (2006) found that PTG was indicative of positive adjustment only when it was linked with action and not simply cognitive coping processes.

### 3.3. Generalizing research findings to other populations

Based on the limitations regarding generalizability that were stated in the previous section, it would be also worthwhile to broaden the research population in future studies. To address (and overcome) this limitation and enhance generalizability, we recommend the following: (1) the replication of findings in different samples and settings, provided that scientific reports have described in detail the recruitment and analytic procedures as

well as the subjects' characteristics; and (2) cross-cultural research comparing data from different countries and cultural contexts.

Firstly, using the social-ecological framework as reference (Bronfenbrenner, 1977), we must recognize that the family system is interrelated to other ecological systems. Hence, by better understanding what happens to a couple's relationship (a close and intimate system) when faced with trauma, further research can also aim to explore how the impact of the trauma can affect other systems that the couples are part of, such as the relationships with surviving children. Also, research should be extended beyond the family microsystem, by also examining the role of social support networks.

Finally, to the best of our knowledge, the general objective of our research project (obtaining a multidimensional view of individual and relational processes inherent to the adjustment of bereaved parents) had not been previously explored, particularly in Portuguese samples. This specificity is important, given the documented impact of culture on grief (e.g., Rosenblatt, 2013) and relationships (Falconier, Randall & Bodenmann, 2016). However, the generalizability of the results would benefit from the collection of more diversified samples culturally.

Despite the research project limitations and the identified avenues for future research, we consider our results to be trustworthy. We have described our research process and our data in detail in order to enable other researchers and clinicians to decide whether our data can be applicable to their settings/background. We also believe that our results make a valuable contribution to the existing literature and may contribute to the refinement of the theoretical models, as well as to convert them into evidence-based guidelines for care and clinical practice with bereaved parents.

## 4. Contributions to clinical practice

This project offers some evidence-based guidelines that may contribute to improve clinical practice with bereaved parents. These considerations are the result of our extensive literature review, discussion of empirical findings with national and international experts in

the field of grief and interpersonal processes, and our direct contact with bereaved parents in the context of the qualitative studies. Comprehensive and culturally sensitive bereavement interventions should be made available for parents both on the dyadic and on the individual level.

### 4.1. Clinical implications on the dyadic level

On a dyadic level, it is important to target both partners and incorporate interpersonal components into intervention programs for parents coping with the loss of a child. Our findings defy the popular misperception that relationships are not resilient enough to handle the extreme distress caused by the death of a child. We stand by the view of the couple as having important resources that need to be acknowledged, promoted and optimized in a clinical setting (Kissane & Hooghe, 2011). Indeed, in such a safe context, parents can be guided in how to connect as a couple and to support each other, along with recognizing, accepting and responding effectively and sensitively to each other's individual needs. Accordingly, based on the data generated from our research project, numerous specific implications can be suggested for professionals caring for bereaved parents:

- Investigating collaboratively what helps and what hinders their marital relationship, addressing specific behaviors that can make one another feel supported or unsupported. It would be also relevant to include in clinical practice the assessment of benefits, costs and functions of mutual support between parents, both for the provider and for the recipient of support.
- Promoting couples' communication about their individual needs, for example by educating about certain types of communication skills that may make it easier for couples to feel heard and validated by one another. It may also be important to explore how comfortable they are with communicating their feelings, both with people in general and with their partner. Information should be provided on how some partners may at times have a need for space and distance and will not want to always talk about their grief with each other. Sharing and taking time off from focusing on the loss should be considered coping styles with equal value; thus, a balanced, flexible and empathic approach that privileges care-in-relation, by

allowing sharing but also grieving in private, is important in promoting feelings of connectedness while not being overbearing. Although it is not possible to be constantly "in sync" with each other (because of the impact of their individual grieving), couples need to make a conscious effort to check in (for example about how they have been feeling) and nourish one another. Advising couples on setting aside some time during the week to connect could be important.

- Using interventions that will help partners increase their empathy toward each other, for example by searching for the meaning of the partner's behavior and helping with the understanding of the origin of each other's coping styles. The construction of a genogram, by clarifying multigenerational patterns of communication and coping, could provide useful insight into patterns of coping with loss and death as well as of relational patterns (Kissane, Bloch, McKenzie, McDowall, & Nitzan, 1998). The discussion of one's patterns in the presence of the partner could be important in fostering understanding and empathic and mutually supportive interactions.
- Exploring similarities and differences in coping and grief manifestations and the origin of these differences. In particular, focusing on the agreement/disagreement regarding continuing bonds with the child may have incremental value. Also, benefits retrieved from the relationship, such as the possible complementarity and strength of different timings in grieving, should be brought to the parents' attention, as these can facilitate the communication of the parents' needs and may possibly encourage mutual empathy. Accordingly, given the value of role complementarity and flexibility, one activity that can be shared by parents is daily tasks. It can be helpful to discuss what tasks must be completed on a daily basis and to determine whether these tasks can be shared.
- Making parents aware of hidden strengths. At the couples level, this aspect could be optimized by providing evidence of bereaved couples' resilience, as well as on the relationship as a potential source of strength. Our results suggest that this positive perception of the relationship can contribute to increase the motivation to engage and support each other.

- Encouraging shared meaning-making processes, by helping bereaved parents to safely explore and share meanings associated with the loss (Hooghe & Neimeyer, 2013; Kissane & Hooghe, 2011). Promoting the reconstruction of a world of meaning would appear essential therapeutically, particularly because of the evidence suggesting the beneficial impact of achieving meaning-made in grief intensity and satisfaction with the marital relationship (e.g., Keesee et al., 2008). Another possible recommendation for parents could be to reserve time for one another and to engage in couples' rituals of, for example, sharing memories of their child, which have been stressed in the literature as important dyadic coping processes during bereavement (Bergstraesser et al., 2015).
- Inquiring parents on whether they are experiencing marital difficulties and informing them that they could possibly experience increased conflict with one another and that it is normal if it happens. This way parents could perceive the conflict as a natural consequence of the limited resources to deal with issues aside from their individual grieving (conflicts within the marital dyad have been reported to result from the lack of energy needed to focus on the partner, given the intensity of one's grief; Rosenblatt, 2000). Nevertheless, parents could be helped to understand the function of their negative interpersonal processes, as well as its costs, with the aim of identifying and modifying them accordingly.
- Addressing the mutual impact between parents. Our results support the view that parents' interpersonal experience should be taken into account (namely focusing on the impact of partner's coping on meaning-made), while at the same time recognizing that parents' reactions are inextricably tied to the bereaved person´s intrapersonal feelings of pain and loss. Similarly, it is also important to incorporate individual-level coping strategies and to help bereaved parents to consider the consequences both for themselves and their partners.
- Informing parents about the possible risks associated with the transmission of emotions between parents, and how to cope more effectively with these emotions individually, so that withdrawal and isolation are not viewed as the only options to self-protect. In this context, exploring and anticipating the impact of witnessing the partner's suffering should not be overlooked.

The support between two concurrently grieving partners may be at times exhausting and draining. Therefore, individual psychotherapy can be experienced as a respite from the burdening perception of being accountable for the other's restoration. Parents would be able to have the opportunity to fully express their individual grieving experiences without having to be attuned to and protect the partner. This was one of the main reasons why the semi-structured interviews were conducted individually. Therefore, in addition to stimulating the couple's resources – by promoting feelings of connection, while balancing their partner/relationship needs with their own – individual focused interventions should also be offered.

### 4.2. Clinical implications on the individual level

Our findings suggest that individual-level interventions should focus, besides the obvious reduction of the impact of individual grief manifestations, on promoting positive grief indicators (PTG and meaning-made) and individual resources, that are essential to wholly integrate the child's loss in their ongoing lives.

We agree with Tedeschi and Calhoun's (2006) statement that clinicians should listen for accounts of PTG during sessions with their clients and work with them, and recommend ways of encouraging growth with clients. However, to emphasize the equality in the therapeutic relationship, the clinician should work as a co-explorer, rather than as an expert in the parents' experiences. Thus, favoring the uniqueness of the parents' individual experience, clinicians should remain open to multiple ways of understanding and meaning-made processes, which may include the perception of growth through coping with such an adversity. Specifically, the use of narrative exercises and life review in working with bereaved parents might be of value (e.g., Gilbert, 2002).

Regarding individual resources, first, individual resilience should be promoted, as we found that those who are resilient – having the ability to cope with life stressors and to thrive and make meaning from challenges (Wagnild & Young, 1993) – are more likely to experience posttraumatic growth. Connor (2006) defined resilience as being able to attract other's support; making close, safe attachments with both personal and social networks; and striving toward personal or collective goals. Such individuals exhibit solid self-efficacy and self-esteem and are action-oriented in problems solving. These aspects could be

promoted in a clinical setting in order to boost the individual resilience of bereaved parents.

Second, traditional bereavement views emphasized emotional detachment from the lost one as the final and necessary stage in positive bereavement adjustment (Field et al., 2003). Parents and the general population should be informed that letting go of the bond with the child is not a necessary condition for moving on, but rather maintaining the bond with the child is a fundamental need of bereaved parents (e.g., Davies, 2004; Meert et al., 2009). Nevertheless, research demonstrates that CB are un-linear and complex and its adaptiveness may depend on whether they are externalized or internalized. According to our findings, promoting a more internalized nature of the bond to the deceased child and promoting psychological proximity rather than physical proximity (which characterizes externalized CB) may constitute important goals in intervention. It appears that CB (internalized) do not necessarily interfere with individual adjustment and may actually allow for the development of PTG. Therefore, the therapeutic setting needs to allow and facilitate sharing of their child's story, honoring their child's ongoing legacy and keeping the memory of the child alive and present in their ongoing lives. Also, given the relevant contribution of the perception of saying goodbye to parents' adjustment, parents should be given the opportunity to find an individualized, symbolic way to say goodbye to their child.

Parents who experience the death of a child require early, longitudinal, interdisciplinary, and multi-faceted bereavement support. Moreover, the easing of parents' maladaptive adjustment should be conducted especially with parents at risk of experiencing difficulties individually – namely higher distress or complicated grief symptomatology – or difficulties in marital adjustment. For example, fathers, parents who have lost older children and those that predominantly engage in negative interpersonal or dyadic behaviors may require further clinical attention.

The innovative nature of this parent-driven research project can contribute to identify the key components to develop comprehensive bereavement programs, and to promote more education of the general population, as well as for the training of aspiring clinicians in the grief area. This is vital, as bereaved individuals, especially those experiencing prolonged

grief, tend to underutilize mental health care (Lichtenthal et al., 2015). Consequently, appropriate support and counselling, could be offered routinely to bereaved parents as part of an overall care package, without parents having to take the initiative to request support, which can be particularly demanding considering the lack of energy and burden of their individual grief. This way, we could minimize additional suffering and maximize support along the parent's grief journey towards integration.

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# Attachments

# Preliminary Study

## Psychometric Studies of the Portuguese Version of the Continuing Bonds Scale-16 in a sample of bereaved parents

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*Manuscript in preparation*

# Psychometric Studies of the Portuguese Version of the Continuing Bonds Scale-16 in a sample of bereaved parents

Sara Albuquerque • Inês Silva • Isabel Narciso • Marco Pereira

**Abstract**

The maintenance of continued connections with a loved one that died (termed continuing bonds) is a widely-occurring phenomenon among bereaved parents, which underscores the importance of using reliable instruments in measuring its expressions. The aim of this study was to assess the psychometric properties of the Continuing Bonds Scale-16 (CBS-16) in a sample of Portuguese-speaking bereaved parents. The sample comprised 355 parents (Mean age = 40.52 years), who completed the CBS-16 and additional measures of grief (Prolonged Grief Disorder Scale) and posttraumatic growth (Post-traumatic Growth Inventory-Short Form). The exploratory factor analysis suggested a two-factor structure (internalized and externalized continuing bonds), which was confirmed through a confirmatory factor analysis. The CBS-16 presented satisfactory reliability (Cronbach alphas were of .88 and .82 for the internalized and externalized continuing bonds, respectively) as well as construct and convergent validities. These results support the use of CBS-16 subscales as two distinct constructs and demonstrate that the Portuguese version of the CBS-16 is a psychometrically adequate measure of continuing bonds among bereaved parents.

**Keywords:** death of a child; continuing bonds; reliability; validity.

## Introduction

Death does not mean the loss of relationship. Although the deceased is no longer physically present, the emotional attachment can continue (Field, Nichols, Holen, & Horowitz, 1999; Root & Exline, 2014). This continued connection that remains after the death is named continuing bonds (CB) and has been identified as an integral component of adjustment to bereavement (Davies, 2005). Although CB expressions have been observed in diverse bereaved populations, including spouses (Field & Friedrichs, 2004; Field, Gal-Oz, & Bonanno, 2003), siblings (Davies, 1999) and young adults who lost their fathers (Tyson-Rawson, 1996), continued connections with the deceased seem to be maintained especially by bereaved parents (Harper, O'Connor, Dickson, & Carroll, 2011; Riches & Dawson, 1998). The relevance of CB in the challenging parental adjustment to the loss of a child indicate the importance of using reliable instruments in measuring its expressions. The aim of the present study was to assess the psychometric properties of the Continuing Bonds Scale-16 (CBS-16) in a sample of Portuguese-speaking bereaved parents.

### Definition and expressions of continuing bonds

The grieving person develops and maintains an internal mental representation of the deceased, that becomes part of his/her inner world (Dyregrov & Dyregrov, 2008; Russac, Steighner, & Song, 2002; Stroebe & Schut, 2005). In this way, the relationship is restructured and redefined through symbolic interactions (Russac et al., 2002). A growing body of literature has described various expressions of CB, which can be conceptualized in term of dimensions of CB expressions, such as internalized or externalized CB. Internalized CB imply a search for psychological proximity (Root & Exline, 2014) and examples of these types of bonds include reassuring mental evocation of the deceased (Field & Filanosky, 2010), communication, symbols and rituals (Toller, 2005), visiting the grave and the preferred site of the deceased (Field, Gao, & Paderna, 2005), and keeping and treasuring objects or photographs belonging to or representative of the deceased (Reisman, 2001; Riches & Dawson, 1998). Moreover, behaviors such as honoring the deceased through selfless acts (Foster et al., 2011), taking on the deceased's characteristics, values and beliefs (Klass, 1993; Russac et al., 2002) and doing things that the deceased would have liked (Foster et al., 2011) are also representative of internalized CB. Finally, communicating

about the bond to the child and keeping this bond alive through participation in online forums (Christensen, Segerstad, Kasperowski, & Sandvik, 2017) can also embody internalized CB. On the other hand, externalized CB imply a search for physical proximity (Field, 2006; Field & Filanosky, 2010) and can be expressed by delusions and hallucinations, such as seeing or hearing, feeling tactile contact or the smell of the deceased (Haraldsson, 1988; Root & Exline, 2014) or mistaken him/her for other individuals (Field et al., 2005).

**Continuing bonds and adjustment to bereavement**

Theoretical frameworks of grief have emphasized the concept of maintenance of the bond as part of adaptive adjustment to a loss (Davies, 2004; Maddrell, 2013). However, empirically, there is no consensus on this matter (Field et al., 2003). Although qualitative studies indicate that CB are typically perceived as positive and helpful for the bereaved (Normand, Nickman, & Silverman, 1996; Nowatzki & Kalischuck, 2009), numerous quantitative studies indicate that the use of CB is associated with increased distress at various time-points post-loss, both immediately following the death (Field & Friedrichs, 2004) and up to 5 years later (Field et al., 2003). In addition, other studies have proposed that CB adaptiveness might depend on the function and sub dimensions of CB expressions (Field & Friedrichs, 2004; Field et al., 2003; Field et al., 2005; Field et al., 2013). For example, CB might be a source of comfort (Klass, Silverman, & Nickman, 1996), psychological proximity (Root & Exline, 2014), secure base (Field & Filanosky, 2010) or a way to confirm the death (Cacciatore & Flint, 2012; Riches & Dawson, 1998). The internalized forms of bonds, based on evocative memory and that adopt an abstract internal representation of the deceased may imply healthy adjustment (Field et al., 2005). Accordingly, Field and Filanosky (2010) found that internalized CB were uniquely positively associated with personal growth, which has been confirmed in a more recent study (Scholtes & Browne, 2015).

On the other hand, CB can be a form of avoidance or denial of the loss (Root & Exline, 2014) or of refusal to accept and integrate the reality of the loss (Field, 2008). Field et al. (1999) found that a CB expression may be considered maladaptive when an effort to retain a more concrete externalized connection is displayed. Expressions reflecting a concrete

and externalized evocation of the deceased are found to be related to negative grief outcomes. As an example, Field et al. (2013) found that CB expressions involving illusions and hallucinations (i.e., externalized) were predictive of greater distress. However, positive partial correlations with complicated grief symptoms were also found for both internalized and externalized CB (Field & Filanosky, 2010; Ho, Chan, Ma, & Field, 2013), questioning the function of this dichotomy in the variance in CB adaptiveness.

**Assessment of continuing bonds: The Continuing Bonds Scale (CBS)**

The Continuing Bonds Scale (CBS) was originally developed to assess CB after the death of the spouse (Field et al., 1999). This measure was developed from a list of 30 items relating to behavior and experiences lived in the grieving process, including sense of presence of the deceased spouse, maintenance and use of belongings, and memories. A subsequent study, also with bereaved spouses, proposed an one-factor structure of the scale and the inclusion of 11 items representing CB expressions types, such as memories, maintenance of objects, sense of presence, identification to and internalization of the deceased through interests and values. The internal consistency proved to be adequate with a value of .87 (Field et al., 2003) which was further confirmed by Neimeyer, Baldwin, and Gillies (2006), in a diverse sample of bereaved young adults (Cronbach's alpha = .90).

Field and Friedrichs (2004) subsequently developed a reduced version of six items, having obtained a Cronbach's alpha of .85. More recently, Stroebe, Abakoumkin, Stroebe, and Schut (2012) using the same version, conducted a factor analysis, which yielded two factors (Non-relinquishment and Connectedness), both including three items. The internal consistency was .65 for the total items, .72 for the Non-relinquishment subscale and .75 for the Connectedness subscale. In an attempt to cover more broadly the types of CB, Field and Filanosky (2010), in a study with a diverse bereaved sample, amplified the 11 item version to a 47 item version. The factor analysis resulted in a 16-item version of the CBS, organized in a two-factor structure, internalized CB (10 items) and externalized CB (6 items), which showed acceptable reliability (Cronbach's alpha of .92 and .73, respectively) Later, Ho et al. (2013) analyzed the properties of the Chinese 47-item version of the CBS developed by Field and Filanosky (2010). The Chinese version of the CBS showed good psychometric properties, with reliability coefficients exceeding the criteria of .90, and the

exploratory factor analysis revealing a meaningful solution, similar to the one reported by the original authors.

The 16-item version of the Continuing Bonds Scale (CBS-16) is especially important as, for the first time, it was suggested a measure that accounted for factors that might influence the adaptiveness of CB: internalized or externalized CB. Also, its shortness is valuable in studying bereaved parents, where minimizing the participants' response burden is especially prioritized. Recent adaptation and validation studies of the CBS-16 have been conducted in the Italian and the Chinese context, using diverse bereaved samples. In these studies, the two-factor structure was confirmed and the adequate reliability was demonstrated (De Luca et al., 2016; Li, Li, & Shi, 2015). De Luca et al. (2016) found adequate Cronbach's alfa values for both CB subscales (.89 for Internalized CB and .80 for Externalized CB), which was replicated in the study of the Chinese version (Li et al., 2015; Cronbach's alfa of .94 for Internalized CB and of .91 for Externalized CB).

**The present study**

A number of studies have demonstrated the reliability of the CBS and, more recently, the reliability of the CBS-16 in diverse countries and samples (De Luca et al., 2016; Li et al., 2015), especially bereaved spouses (Field & Filanoski, 2010; Stroebe et al., 2012). To our knowledge, no studies have examined the reliability and validity of the CBS-16 among bereaved parents, which is surprising since CB is an especially prevalent phenomenon among this population (Davies, 2004; Rosenblatt, 2000; Wheeler, 2001). Culture has begun to emerge as a potentially important factor in explaining individual differences in grief reactions (Bonanno, Papa, Lalande, Zhang, & Noll, 2005; Rosenblatt, 2001). The same has proven to be true in relation to CB, as studies have demonstrated the existence of cultural differences in CB and in its relation to adjustment (Lalande & Bonanno, 2006). In order to enhance the knowledge on CB and, in consequence, improve clinical practice with bereaved parents, it is important to acknowledge the specificity of CB within parental bereavement and to understand CB within the specific cultural context of Portuguese bereaved parents. Therefore, the aim of this study was to assess the psychometric properties of the CBS-16 in a sample of Portuguese-speaking bereaved parents.

## Methods

### Participants and procedures

This cross-sectional study was part of a larger project about parental individual and marital adjustment to the death of a child, which was approved by the Ethics Committees of the hosting institution and several Portuguese hospitals. Prior to the sample collection, the CBS-16 was translated into European Portuguese language. To ensure the cross-cultural conceptual equivalence of the items, we used the forward-backward translation technique, which involved: (1) forward translation of the items and response scales from the original English version to the European Portuguese language by the first author, and with supervision of the other co-authors; (2) backward translation by a proficiency English-speaking person; and (3) review of forward and backward translations by all authors and construction of the experimental Portuguese version of the scale.

Regarding sample collection, the inclusion criteria for this study were as follows: (1) having lost a child; (2) being at least 18 years of age; and (3) having the ability (of language and cognitive) to complete the set of questionnaires. The sample was recruited by convenience through an online survey placed on the website of the hosting institution. The introductory page of the survey provided all the necessary information to make an informed decision about participating in the study, particularly the study aims, the inclusion criteria and the participants' and the researchers' roles. Ethical considerations related to confidentiality and anonymity of the answers were also provided.

The sample was composed of 355 bereaved parents (89% female), with a mean age of 40.52 years (*SD* = 12.95). Most parents were married (77.5%) and employed (60.6%), and 63.1% had other children. The mean duration of the marital relationship was 16.32 years (*SD* = 12.89). Their deceased child's mean age at the time of the death was 7.44 years (*SD* = 10.47) and the mean time post loss was 5.90 years (*SD* = 9.17). A total of 63.3% of the deceased children were male. The most frequent causes of death were illness (23.9%), fetal death (22.3%), accident (18.9%), and neonatal death (17.7%). For most parents, the death of the child was perceived as unexpected (83.7%).

## Measures

Parents' and children's sociodemographic information, as well as information regarding the circumstances of the death were recorded. Regarding socio-demographic information, parents provided data on sex, age, marital status (single, married, cohabiting, separated/divorced or widowed), length of the marital relationship, education, employment status (employed, unemployed, retired or student), existence of other children (yes/no) and area of residence (rural or urban). In addition, parents provided information on their offspring's sex and age at the time of death; time since death; expectedness of death (yes/no); cause of death (fetal death, illness, accident, neonatal death, sudden death, suicide or homicide); place of death (hospital, home or other); presence at the time of death; and having said goodbye (yes/no questions).

### Continuing Bonds Scale (CBS-16)

The CBS-16 (Field & Filanosky, 2010) assesses the maintenance of the relationship with the lost child. This 16-item scale is organized in two subscales: internalized CB (10 items) and externalized CB (6 items). Internalized CB refers to an abstract internal representation of the deceased, or to the maintenance of psychological proximity. Externalized CB refers to the search for physical proximity and can be expressed by delusions and hallucinations. The items are answered on a four-point response scale ranging from 0 (*Never*) to 3 (*Very often*), and refer to experiences in the last month. Scores on the CBS-16 range between 0 and 32, with higher scores reflecting a higher level of CB.

### Prolonged Grief Disorder Scale (PG-13)

The grief response was assessed with the PG-13 (Prigerson, Vanderwerker, & Maciejewski, 2007; Portuguese version: Delalibera, Coelho, & Barbosa, 2011) on the basis of the diagnostic criteria for prolonged grief disorder (PGD). Eleven grief symptoms are assessed in relation to the previous month (e.g., *In the past month, how often have you had intense feelings of emotional pain, sorrow, or pangs of grief related to the lost relationship?),* and include: 1) separation distress; 2) cognitive, emotional, and behavioral symptoms; and 3) impairment. Each of these items is answered on a five-point scale ranging from 1 (*Never*/*Not at all*) to 5 *(Several times a day*/*Severe*) to represent increasing levels of symptom frequency/severity. The grief score was obtained by calculating the sum of the

11 symptom item scores (range: 11-55 points). The remaining two items related to the frequency and duration of symptoms and significant reduction in areas of functioning (e.g., social) were answered with "yes" or "no". In this study, the majority of the parents did not meet the criteria for a diagnosis of prolonged grief disorder (67.5%). The Cronbach's alpha in the present sample was .91.

#### Post-traumatic Growth Inventory-Short Form (PTGI-SF)

The PTGI-SF (Cann et al., 2010; Portuguese version: Lamela, Figueiredo, Bastos, & Martins, 2014) assesses perceived positive outcomes of traumatic or stressful events on the following five subscales: personal strength, spiritual change, relating to others, appreciation of life, and new possibilities. The PTGI-SF comprises 10 items with six response alternatives, ranging from 0 (*no change*) to 5 (*high degree of change*). Scores on the PTGI-SF range between 0 and 50, with higher scores reflecting a higher level of posttraumatic growth. The original study of the PTGI-SF, which included a sample of bereaved parents, showed satisfactory reliability and validity (Cann et al., 2010), which was replicated in the Portuguese validation study (Lamela et al., 2014). In this study, the total of the scale was used (Cronbach's alpha of .90).

### Data analysis

An exploratory factor analysis (EFA; Principal Component Analysis) with Varimax rotation was first performed to explore the factor structure of the Portuguese version of the CBS-16. The Kaiser-Meyer-Olkin test and Bartlett's test of sphericity were conducted to test the sample adequacy to perform this analysis. Cronbach's alpha for each subscale and for the total score was computed to assess the internal consistency of the CBS-16. The effect of removing each item from a given subscale was assessed by comparing the Cronbach's alpha value when excluding a certain item with the subscale final alpha value. Corrected item-total correlations were explored and were considered adequate when ≥.30 (Day, Pedhazur, & Schmelkin, 1994). Pearson correlations were used to explore the convergent validity of the scale. A confirmatory factor analysis (CFA) using maximum likelihood estimation was conducted in AMOS© 20 to test the adequacy of the factor structure found in EFA. Because the chi-square index ($\chi^2$) is very sensitive to sample size and may overestimate the lack of model fit, the assessment of fit was based also on the

Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and the Root-Mean-Square Error of Approximation (RMSEA). Criteria for adequate model fit were $\chi^2$ > .05; TLI and CFI > .90; and RMSEA < .08 (Byrne, 2010). All tests were two tailed with $p$ < .05 indicating statistical significance.

## Results

### Exploratory Factor Analysis

The Kaiser-Meyer-Olkin test (KMO = .90) and Bartlett's test of sphericity [$\chi^2$ (120) = 2215.74, $p$ < .001] confirmed the adequacy of the sample for the analyses. The EFA resulted in a three-factor solution (with eigenvalues >1) that accounted for 56.62% of the total variance. Factor 1 explained 38.08% of the variance and included the same six items of the original Externalized CB subscale (items 11-16). Factor 2 explained 12.14% of the variance and combined six out of 10 items of the Internalized CB subscale (items 1 4, 7, 8, 9, 10). Factor 3 explained 6.42% of the variance and included the remaining items of the Internalized CB subscale (items 2, 3, 5 and 6). There were no cross-loadings above .40. However, when the content of the items from Factor 3 was analyzed, we concluded that these pertained to expressions of internalized CB that theoretically do not substantiate the pertinence of a separate factor. Also, the scree test indicated that a two-factor solution was the best fit. The scree plot demonstrated a steep decline and a significant plateau after the second factor, providing evidence to a two-factor solution (Figure 1).

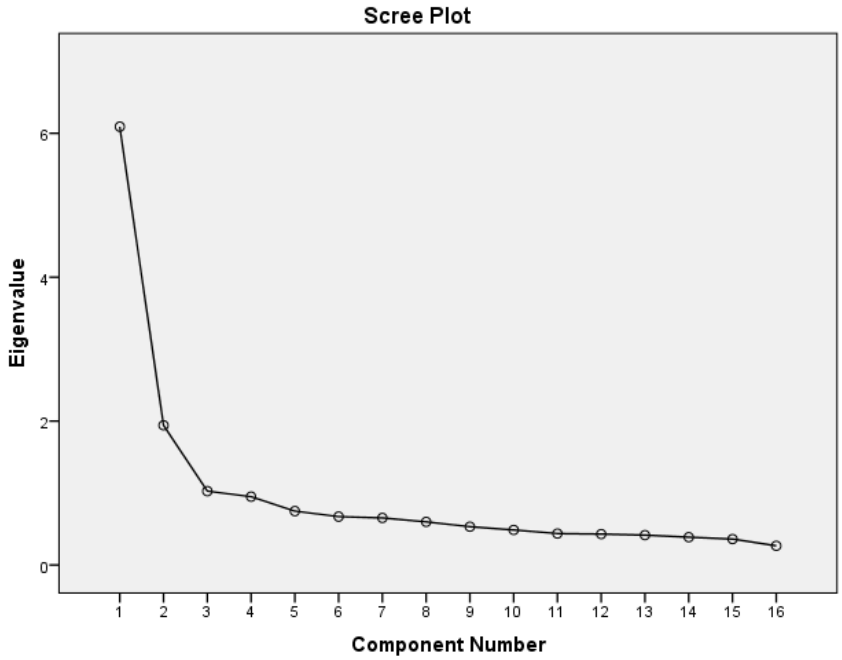


**Figure 1** I Scree plot of eigenvalues for principal components analysis

Therefore, an additional EFA fixed to the two-factor structure was computed. The two-factor solution accounted for 50.21% of the total variance. As presented in Table 1, Factor 1 explained 12.14% of the variance and included the original 10 items of the Internalized CB subscale (items 1-10). Factor 2 explained 38.08% of the variance and included the same six items of the Externalized CB subscale (items 11-16). There were no cross-loadings above .40. The factor loadings ranged from .62 (item 15) to .75 (item 12) in Factor 1 (Internalized CB) and from .54 (item 10) to .72 (item 8) in Factor 2 (Externalized CB).

**Table 1** I Factor loadings after a Principal Components Analysis with Varimax rotation and standardized factor loadings in CFA

| | Components | | Standardized |
|---|---|---|---|
| | Intern. CB | Extern. CB | factor loadings in CFA |
| 8. I thought about how the deceased would have enjoyed something I saw or did. | **.72** | | .71 |
| 2. I was aware of how I try to live my life the way the deceased would have wanted me to live. | **.71** | | .56 |
| 5. When making important decisions, I thought about what the deceased might have done and used this in helping me make my decision. | **.69** | .30 | .70 |
| 3. I thought about the deceased as a role model who I try to be like. | **.66** | | .64 |
| 1. I thought about the positive influence of the deceased on who I am today. | **.66** | | .48 |
| 7. I experienced the deceased as continuing to live on through his or her impact on who I am today. | **.65** | | .67 |
| 4. I imagined the deceased as guiding me or watching over me as if invisibly present. | **.64** | | .67 |
| 6. I was aware of attempting to carry out the deceased's wishes. | **.63** | .34 | . 65 |
| 9. I imagined sharing with the deceased something special that happened to me. | **.57** | | .58 |
| 10. I imagined the deceased's voice encouraging me to keep going. | **.54** | .39 | .63 |
| 12. I briefly acted as though the deceased were not dead (such as calling out loud his or her name or preparing the table for two). | | **.75** | .73 |
| 11. I actually heard the voice of the deceased speak to me. | | **.72** | .72 |
| 14. I actually felt the deceased's physical touch. | | **.72** | .64 |
| 16. I actually saw the deceased stand before me. | | **.71** | .56 |
| 13. Even if only momentarily, I have mistaken other people for the deceased. | | **.68** | .62 |
| 15. I imagined that the deceased might suddenly appear as though still alive. | | **.62** | .63 |

***Note.*** Intern. = Internalized; Extern. = Externalized; CB = Continuing Bonds; CFA = Confirmatory Factor Analysis.

## Confirmatory Factor Analysis

The correlated two-factor model presented an acceptable fit to the data, $\chi^2(103) = 368.69$, $p < .001$; CFI = .88; TLI = .86; RMSEA = .09 [90% CI .08/1]. The analysis of the modification indices were examined, and suggested that the error covariances between items 4 and 8, 13 and 14, 11 and 16, and 1 and 9 might be correlated. Because these pairs of items had similar content and belonged to the same factor, these errors were allowed to covary

(Byrne, 2010). The re-specified model had an adequate fit to the data [χ2(102) = 255.70, $p$ < .001; CFI = .93; TLI = .91; RMSEA = .07 [90% CI .06/.08], and presented a better fit, comparing to the initial model ($\chi^2_{diff}$ =112.99, $\Delta df$ = 4, p < .001). All standardized factor loadings of the items were significant ($p$ < .001), and ranged from .48 (item 1) to .73 (item 12) (see Table 1).

**Reliability Analysis and Correlations between Subscales**

As presented in Table 2, adequate Cronbach's alpha coefficients were found for both subscales: Internalized CB (α = .88); Externalized CB (α = .82). The elimination of each individual item of the corresponding subscale did not contribute to an increase in the subscale's Cronbach's alpha. All corrected item-total correlations were above .30.

**Table 2** I Mean scores and standard deviation for the items and reliability analyses

| | Mean (*SD*) | Range | Corrected item-total correlation | Cronbach's alpha if item deleted |
|---|---|---|---|---|
| **Internalized CB** | | | | |
| Item 1 | 2.09 (1.20) | 0-3 | .46 | .87 |
| Item 2 | 1.69 (1.27) | 0-3 | .54 | .86 |
| Item 3 | 1.19 (1.34) | 0-3 | .60 | .86 |
| Item 4 | 1.84 (1.31) | 0-3 | .61 | .86 |
| Item 5 | 1.05 (1.28) | 0-3 | .68 | .85 |
| Item 6 | 1.28 (1.36) | 0-3 | .63 | .86 |
| Item 7 | 1.70 (1.32) | 0-3 | .62 | .86 |
| Item 8 | 2.06 (1.22) | 0-3 | .67 | .85 |
| Item 9 | 2.19 (1.17) | 0-3 | .55 | .86 |
| Item 10 | 1.49 (1.42) | 0-3 | .57 | .86 |
| | | Cronbach's alfa = .88 | | |
| **Externalized CB** | | | | |
| Item 11 | 0.54 (1.04) | 0-3 | .62 | .78 |
| Item 12 | 0.77 (1.15) | 0-3 | .65 | .77 |
| Item 13 | 0.70 (1.10) | 0-3 | .54 | .79 |
| Item 14 | 0.53 (0.99) | 0-3 | .61 | .78 |
| Item 15 | 1.12 (1.28) | 0-3 | .55 | .80 |
| Item 16 | 0.28 (0.79) | 0-3 | .55 | .80 |
| | | Cronbach's alfa = .82 | | |

***Note.*** CB = Continuing Bonds; SD = Standard Deviation.

As presented in Table 3, all subscales were significantly and strongly correlated with the total score, and all correlations between subscales were significant.

**Table 3** I Correlations between the CBS-16 subscales and total score

| | M (*SD*) | Internalized CB | Externalized CB |
|---|---|---|---|
| **Internalized CB** | 1.66 (0.88) | - | |
| **Externalized CB** | 0.66 (0.77) | .52*** | - |
| **Total score** | 1.28 (0.74) | .94*** | .78*** |

**Note**. CB = Continuing Bonds; M = Mean; SD = Standard Deviation.
*** $p < .001$

### Convergent validity

As presented in Table 4, both the CBS-16 subscales correlated significantly and positively with grief response. Also, the Internalized CB subscale correlated significantly and positively with posttraumatic growth.

**Table 4** I Correlations between the CBS-16 subscales and total score and other variables

| | Total PG | Total PTG |
|---|---|---|
| **Internalized CB** | .35*** | .18** |
| **Externalized CB** | .44*** | .04 |

***Note*.** CB = Continuing Bonds; PG = Prolonged grief; PTG = Posttraumatic growth
** $p < .01$; *** $p < .001$

## Discussion

This is the first study assessing the psychometric properties of the CBS-16 for use specifically with bereaved parents. The results of the EFA suggested a two-factor structure, which was confirmed through the CFA. The two-factor structure was identical to the factor structure of the original version of CBS-16 (Filed & Filanosky, 2010), and thus confirms that the internalized CB and externalized CB load on distinct subscales. The CBS-16 presented satisfactory reliability, replicating the findings of recent validation studies (De Luca et al., 2016; Li, et al., 2015). Cronbach's alpha was above 0.70 for both subscales, exceeding the recommended alpha for established instruments (Streiner & Norman, 1995).

In addition, evidence for convergent validity is supported by significant correlations with the PG-13 (assessing grief response) and the PTGI-SF total score (assessing posttraumatic growth). Specifically, both CBS-16 subscales correlated significantly and positively with grief response, in accordance with previous findings showing positive partial correlations of complicated grief symptoms and both internalized and externalized CB (Field & Filanosky, 2010; Ho et al., 2013). Also, positive correlations were found between Internalized CB and posttraumatic growth, suggesting a protective function of this form of CB in parents' adjustment. This finding is coherent with previous studies that suggest that the internalized forms of CB, entailing a search for psychological proximity, might indicate healthy adjustment (Filed & Filanosky, 2010; Scholtes & Browne, 2015). These patterns of associations also call attention to the importance of CB for parental adjustment. However, it remains unclear the differential contribution to adjustment (namely, in terms of grief response) of each CB subscale, which warrants further exploration in future studies.

Potential limitations imposed by the sample's composition, the sampling strategy and study design should be acknowledged. The participants were recruited through a non-probabilistic convenience sampling method, most participants were self-selected, there was a significant imbalance between men and women, and the sample was heterogeneous, for instance, regarding the child's age and the causes of death. In addition, the cross-sectional design that entailed a single administration of the assessment protocol impeded the test-retest reliability of the CBS-16 and, therefore, a suitable assessment of the scale's sensitivity to change. Finally, given the sample size, the CFA was performed in the same sample as the EFA. In future studies, it would be relevant to perform the EFA and CFA in different samples.

Despite these limitations, this study represents an important contribution to the assessment of CB among bereaved parents. The results in the present study support the utilization of the CBS-16 scale and indicate, in line with other versions of the CBS (e.g., De Luca et al., 2016; Field & Filanosky, 2010; Li et al., 2015), that the two-factor solution of the CBS-16 found in this sample of Portuguese-speaking bereaved parents is a reliable measure of CB. The CBS-16 may be especially adequate in the context of parental

bereavement, particularly given its shortness and bi-dimensionality (internalized or externalized CB), allowing adequate clinical and research use of the scale.

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