UNIVERSIDADE D
COIMBRA

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Tese no âmbito do Mestrado Integrado em Psicologia Clínica e da Saúde, Subárea de Especialização em Intervenções Cognitivo-Comportamentais nas Perturbações Psicológicas da Saúde orientada pela Professora Doutora Maria do Céu Salvador e pelo Professor Doutor Marco Pereira e apresentada à Faculdade de Psicologia e de Ciências da Educação.

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Esta aventura não tinha o mesmo sentido sem vocês!

Abstract

Shame has been associated with psychopathology, in both heterosexual and non-heterosexual individuals. However, there is a lack of empirical research on the associations and processes behind the potential influence of emotion regulation processes in the association between shame and psychopathology. Therefore, the aim of the present study was to explore the mediating role of shame-coping styles in the association between (internal and external) shame and psychopathology, and whether this mediation was moderated by sexual orientation. The sample of this cross-sectional study consisted of 346 Portuguese adults from the community (*M* age = 26.3 years), of which 231 reported to be heterosexual and 115 to be non-heterosexual. Results showed that non-heterosexual individuals reported higher levels of (internal and external) shame and psychopathology, as well as a greater use of self-directed shame-coping styles (withdrawal, attack-self, and avoidance). No differences between groups in other-directed shame-coping style (attack-others) were found. In both groups, the associations between shame, shame-coping styles and psychopathology showed that shame was positively associated with psychopathology, and that withdrawal and attack-self showed the stronger associations with psychopathology. The shame-coping style withdrawal had the most consistent mediating effect in the association between shame and psychopathology. Sexual orientation was not a significant moderator of the hypothesized mediations. This study provides novel findings on the potential role of shame-coping styles in the association between shame and psychopathology. Therefore, this process may be an important target to address in clinical practice, regardless of sexual orientation.

Keywords: shame, shame-coping styles, psychopathology, sexual orientation

Resumo

A vergonha tem sido associada à psicopatologia, tanto em indivíduos heterossexuais como não heterossexuais. No entanto, existe uma lacuna na investigação relativa às associações e processos subjacentes ao possível papel dos processos de regulação emocional na associação entre vergonha e psicopatologia. Neste sentido, o objetivo do presente estudo constituiu em explorar o papel mediador das estratégias para lidar com a vergonha na associação entre vergonha (interna e externa) e psicopatologia, e se esta mediação era moderada pela orientação sexual. A amostra deste estudo transversal foi constituída por 346 adultos portugueses da população geral (*M* idade = 26.3 anos), dos quais 231 referiram ser heterossexuais e 115 ser não heterossexuais. Os resultados mostraram que os indivíduos não heterossexuais reportaram níveis mais elevados de vergonha (interna e externa) e psicopatologia, assim como um maior uso de estratégias disfuncionais de lidar com a vergonha direcionadas ao *self* (fuga, ataque ao *self*, evitamento). Não foram encontradas diferenças entre os grupos na estratégia para lidar com a vergonha dirigida aos outros (ataque ao outro). Nos dois grupos, a associação entre vergonha, estratégias para lidar com a vergonha e psicopatologia mostrou que a vergonha estava positivamente associada à psicopatologia, e que a fuga e o ataque ao *self* apresentaram as associações mais fortes com a psicopatologia. A fuga foi a estratégia para de lidar com a vergonha com um efeito indireto significativo mais consistente na associação entre vergonha e psicopatologia. A orientação sexual não foi um moderador significativo das mediações hipotetizadas. O presente estudo proporciona resultados inovadores sobre a possível influência das estratégias para lidar com a vergonha na associação entre vergonha e psicopatologia. Neste sentido, este processo pode ser um alvo importante a considerar na prática clínica, independentemente da orientação sexual.

Palavras-chave: vergonha, formas de lidar com a vergonha, psicopatologia, orientação sexual

Índice

Introduction

According to an evolutionary approach (Gilbert, 1995, 2007), the human brain evolved to be highly sensitive to the social domain, as the central biosocial goals are concerned with self-other relationships (e.g., wanting to be loved and cared for, nurture others, be accepted by a group, obtain rank/status, find a sexual partner). The biosocial goals appear as particular types of social roles (Gilbert, 1998b) and motivators for social behaviour (Gilbert, 1995). Therefore, the human drive to successfully create desired social roles and be socially approved, accepted, and with positive reputations is associated with positive affect and feelings of safeness (Gilbert, 2007). The social understanding of the acceptance of others requires cognitive competencies that include symbolic self-awareness, the ability to understand what might be going on in the minds of others and metacognition (Gilbert, 2003, 2007).

Shame and Coping with Shame

From the cognitive competencies previously underlined, shame emerges as an internal warning sign that one has failed to secure social relationships and live in the minds of others as a person with negative characteristics (e.g., defective, inferior, undesired, inadequate, worthless) or lack of positive ones, hence at risk of rejection, exclusion, or even persecution (Gilbert, 2007; Gilbert & Andrews, 1998; Tangney & Dearing, 2002). That feeling makes shame acutely disturbing to the self and, according to Kaufman (2004), no other affect is more severely disturbing. Additionally, shame has been conceptualized as a self-conscious and socially shaped emotion that is linked to threats to social self-identity and it plays a fundamental role in the formation of one's sense of self and self-identity as a social agent (Gilbert & Andrews, 1998; Kaufman, 2004; Tracy et al., 2007). According to Gilbert (1998b), shame can be either internal or external: while internal shame is considered the internal dynamics of the self and how one judges oneself, as being undesired, flawed, inadequate, inferior, or isolated (Gilbert, 2003), external shame is considered the experience of oneself as existing negatively in the minds of others, as having deficits, failures or flaws exposed (Gilbert, 1997, 1998b).

Shame is a painful affect that has been linked to many psychological symptoms, namely anxiety, depression, and social anxiety symptoms in both heterosexual (Cândea & Szentagotai, 2013; Cândea & Szentagotai-Tătar, 2018; Elison, Lennon et al., 2006; Elison, Pulos et al., 2006; Kim et al., 2011; Tangney et al., 2007) and non-heterosexual populations (Mereish & Poteat, 2015). More specifically, external shame has been shown to be more strongly associated with symptoms of depression and social anxiety than internal shame (Cândea & Szentagotai, 2013; Cândea & Szentagotai-Tătar, 2018; Kim et al., 2011). The association between shame and distinct psychological symptoms and disorders may rely on how each person copes with their own feelings

of shame (Elison, Lennon, et al., 2006; Elison, Pulos, et al., 2006). Therefore, an important aspect of the experience of shame is the way how an individual copes with, or defends against it (Elison, Lennon, et al., 2006).

Nathanson (1992) argued that when facing the experience and feelings of shame individuals may adopt adaptive or maladaptive coping styles (withdrawal, attack-self, attack-others, and avoidance). A recent study showed that external shame has been significantly associated with all maladaptive shame-coping styles (Paulo et al., 2020). Similarly, Capinha et al. (2021) have shown a stronger association between external shame and all maladaptive shame-coping strategies, most prominently withdrawal and attack-self. In, addition, the shame-coping style attack-self and withdrawal have been associated with internalizing disorders, while the shame-coping style attack-other and avoidance have been associated with externalizing disorders (Elison, Lennon, et al., 2006; Vagos et al., 2018; Paulo et al., 2020). The evidence also shows that dysfunctional shame-coping styles are positively associated with each other and have shown their potential mediation effect between external shame and psychological symptoms (Capinha et al., 2021; Paulo et al., 2020).

Sexual Minorities, Shame and Self-to-Self Relationships

Sexual minorities, persons with non-heterosexual sexual orientation, appear to be particularly vulnerable to the experience of shame as they may perceive themselves to be different in the realm of sexuality (Johnson & Yarhouse, 2013). When compared with heterosexual individuals, non-heterosexual individuals also appear to be at higher risk for some forms of psychopathology (Herek & Garnets, 2007), such as anxiety, depression, and social anxiety (Bostwick et al., 2010; Cathey et al., 2014; Chakraborty et al., 2011). Evidence suggested that among sexual minorities, shame has been strongly associated with psychological distress (Mereish & Poteat, 2015).

In this specific context, Meyer (2013) identified four stress minorities processes (i.e., discrimination, perceived stigma, concealment, and internal homophobia) responsible for this disparity, as they are related to an array of mental health problems (Chang et al., 2020; Mahon et al., 2021). Specifically, studies reported that non-heterosexual individuals show high levels of homophobic discrimination (Lund et al., 2020) with traumatic and shaming characteristics (Seabra et al., 2021), and more frequent experience of social exclusion (Scheer et al., 2020). In addition to minority stress processes, recent research has investigated some emotion regulation processes on sexual minorities, such as rejection sensibility, lack of emotion awareness and clarity (e.g., Chang et al., 2020; Mahon et al., 2021; Mereish et al., 2018). However, to our knowledge, there is no data regarding the association between internal shame and shame-coping styles among heterosexual and non-heterosexual individuals, or shame-coping styles among non-heterosexual individuals.

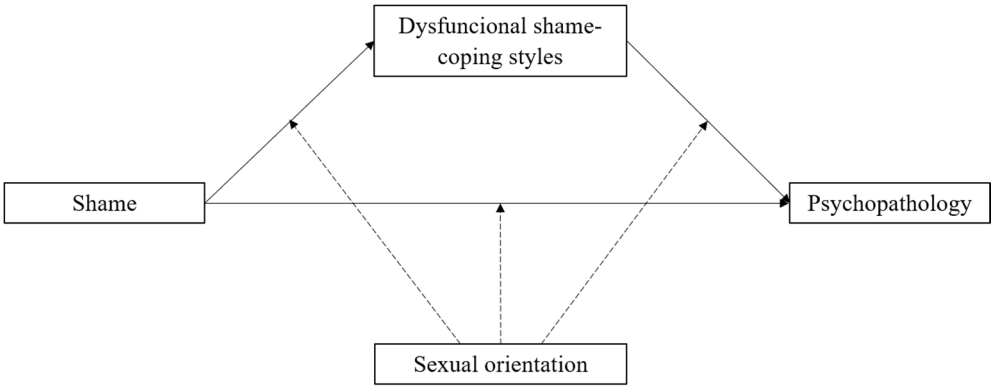
The Present Study

Never in human history has been so much pressure to present as socially attractive packages (Gilbert, 1998a; Tracy et al., 2007). Hence, the study of shame is fundamental, not only in the heterosexual population, but also among sexual minorities, as they may be exposed to increased violence and stigma-related stress. Currently, there is plenty of empirical evidence that links shame to psychopathology. However, there is a lack of research on the associations and processes behind the potential influence of emotion regulation processes in the relation between shame and psychopathology. To the best of our knowledge, as mentioned above, no studies investigated the shame-coping styles in sexual minorities.

Therefore, the main goal of this study was to explore the role of an emotion regulation process (coping with shame) in the association between shame (internal and external) and psychopathology (anxiety, depression, and social anxiety), and to test if these associations differ among heterosexual and non-heterosexual individuals. The specific goals of this study were: (1) to compare both heterosexual and non-heterosexual individuals regarding internal and external shame, dysfunctional shame-coping styles, and psychopathology; (2) to analyze the association between shame, shame-coping styles, and psychopathology; (3) to test the mediation effect of dysfunctional shame-coping styles in the association between shame and psychopathology; and (4) to examine if sexual orientation moderates the hypothesized mediation. Figure 1 graphically illustrates the hypothesized moderated mediation model. Based on the literature review, we expected that: (H1) non-heterosexual individuals would report higher levels of shame and psychopathology than heterosexual individuals; given the lack of empirical evidence, no hypotheses were made regarding differences in dysfunctional shame-coping styles; (H2) shame and dysfunctional shame-coping styles would be positively related to psychopathology; (H3) dysfunctional shame-coping styles would be significant mediators of the association between shame and psychopathology. Regarding the moderated mediation, no specific hypotheses were made as we are not aware of studies examining shame-coping styles among sexual minorities.

Figure 1

Moderated mediation model



Method

Participants

The sample of this study consisted of 346 Portuguese adults from the community, who fulfilled the inclusion criteria of being over 18 and under 65 years old. Given the study´s aims, two groups were created: Group 1 – heterosexual individuals (n = 231) and Group 2 – non-heterosexual individuals (n = 115). Overall, participants had a mean age of 26.3 years (SD = 10.3) and on average completed 14 years of education (SD = 2.6). Specifically, in Group 1, participants had a mean age of 26.7 years old (SD = 10.9) and had completed on average 13.9 years (SD = 2.6) of education. In Group 2, participants were on average 25.5 years (SD = 9.0) and had completed on average 14.2 years (SD = 2.7) of education. The majority of participants were women, cisgender and single. More detailed information about the two study groups is presented in Table 1.

There were no significant differences between the groups in terms of age (t (262.62) = 1.08, p = .280), education (t (326) = -0.98, p = .330) and occupation (χ^2 (1) = 0.001, p = .976). However, the groups significantly differed in terms of gender (χ^2 (1) = 8.10, p = .004), identity (χ^2 (1) = 13.52, p < .001), marital status (χ^2 (1) = 9.25, p = .002) and psychological counselling (χ^2 (1) = 18.54, p < .001). Overall, heterosexual participants were more likely of female gender and self-identifying as cisgender and were less likely of not having a partner and of being in psychological counseling.

Table 1

Participants' sociodemographic characteristics

Characteristics	Group 1 – heterosexual individuals (n = 231)		Group 2 – non-heterosexual individuals (n = 115)	
	n	%	*n*	%
Gender				
Female	191	82.7	76	66.1
Male	40	17.3	34	29.6
Prefered not to answser	0	0	1	0.9
Other	0	0	3	2.6
Gender identity				
Cisgender	219	94.8	95	82.6
Transgender	6	2.6	7	6.1
Non-binary	0	0	10	8.7
Prefered not to answser	5	2.2	2	1.7
Other	0	0	1	0.9
Sexual orientation				
Heterosexual	231	100	0	0
Gay	0	0	22	19.1
Lesbian	0	0	27	23.5
Bisexual	0	0	50	43.5
Pansexual	0	0	13	11.3
Prefered not to answser	0	0	2	1.7
Other	0	0	1	0.9
Marital status				
Single	180	77.9	104	90.4
Married	42	18.2	7	6.1
Divorced	6	2.6	3	2.6
Widow	1	0.4	0	0
Prefered not to answser	2	0.9	1	0.9
Psychological treatment (yes)	24	10.4	33	28.7

Procedures

This study was part of a broader research project focused on emotional regulation and mental health across sexual orientation. This study was approved by the Ethics Committee of the Faculty of Psychology and Educational Sciences of the University of Coimbra. The study protocol was developed on a web-based platform (LimeSurvey®), hosted on the host institution's website, and its link was advertised through social networks (e.g., Facebook) as well as services/associations that work with non-heterosexual individuals. The recruitment of participants occurred between February and April of 2021.

Before filling the set of questionnaires, all participants were informed about the study's aims, the inclusion criteria, the predicted time of the filling, the benefits and risks of participating, and the possibility to require the results of the study. No associated risks or side effects were accounted but information on psychological support lines in case of experiencing any emotional or psychological difficulties were also presented. Subsequently, participants provided their informed consent acknowledging the research's purposes, the voluntary participation, and all aspects related to confidentiality and anonymity.

Measures

The research protocol included a sociodemographic questionnaire developed by the researchers and the European Portuguese versions of the self-report measures assessing shame (internal and external), emotion regulation processes (coping with shame), and psychopathology (anxiety, depression, and social anxiety). The sociodemographic form collected data concerning age, gender, gender identity, sexual orientation, marital status, education, and occupation. Participants were also asked if they were receiving psychological counselling at the moment of the study participation.

The *External and Internal Shame Scale* (EISS; Ferreira et al., 2020) is a self-report instrument with 8 items, answered on a 5-point response scale (0 = "never" to 4 = "always"), assessing Internal (e.g., "I am unworthy as a person") and External (e.g., "Other people see me as not being up to their standards") Shame. Each dimension is composed by 4 items, considering the following four core domains: Inferiority, Exclusion, Emptiness, and Criticism. Higher scores denote increased levels of internal or external shame. In the original study (Ferreira et al., 2020), the EISS demonstrated good internal consistency for the total scale (α = .89) and for external and internal shame subscales (α = .80 and α = .82, respectively), as well as adequate concurrent and discriminant validity. In this study, the Internal and External Shame subscales showed a very good internal consistency in Group 1 (α = .86; α = .83) and in Group 2 (α = .89; α = .80).

The *Compass of Shame Scale-5* (CoSS-5; Elison, Lennon, et al., 2006; Nathanson, 1992; European Portuguese Version: Capinha et al., 2021) was designed to assess the five shame-coping

styles described by Nathanson (1992), of which four are maladaptive – Withdrawal (12 items; e.g., "I try not to be noticed"), Attack-self (12 items; e.g., "I criticize myself"), Attack-others (12 items; e.g., "I blame other people"), and Avoidance (12 items; e.g., "I pretend I don't care") – and one style is adaptive – Adaptive (10 items; e.g., "When I feel lonely or left out, I talk to a friend"). Participants answer the 58 items on a response scale ranging from 0 ("never") to 4 ("almost always"), with higher scores on a specific factor indicating the predominant use of that shame-coping style. In its original version, all subscales showed good reliability values (α ranging from .74 to .91), good test-retest reliability and good convergent and discriminant validity (Elison, Lennon, et al., 2006). The Portuguese version has also showed good internal consistency (α ranging from .79 to .90) and has confirmed its construct validity (Capinha et al., 2021). In this study, only the four maladaptive subscales were used. The Cronbach's alphas in Group 1 ranged from .71 (Avoidance) to .92 (Attack-Self) and in Group 2 ranged from .74 (Avoidance) to .93 (Attack-Self).

The *Depression, Anxiety and Stress Scale* (DASS; Lovibond & Lovibond, 1995; European Portuguese Version: Pais-Ribeiro et al., 2004) is a 21-item scale designed to assess three factors, namely Depression (7 items; e.g., "I could see nothing in the future to be hopeful about"), Anxiety (7 items; e.g., "I was aware of the action of my heart in the absence of physical exertion") and Stress (7 items; e.g., "I found it difficult to relax"). Participants are asked to answer their experience of those symptoms over the past week on a 4-point response scale (0 = "didn't apply to me at all" to 3 = "applied to me most of the times"). Higher scores indicate greater negative affect. Every subscale showed good internal consistency both in the original and in the Portuguese version, with Cronbach´s alphas ranging from .84 to .91 and from .74 to .85, respectively (Lovibond & Lovibond, 1995; Pais-Ribeiro et al., 2004). In this study, we only used Depression and Anxiety subscales, and both revealed a good internal consistency. Group 1 showed a Cronbach's alphas of .90 for the Depression subscale and of .89 for the Anxiety subscale. Group 2 showed a Cronbach's alphas of .92 for the Depression subscale and of .80 for the Anxiety subscale.

The *Social Interaction Anxiety Scale* (SIAS; Mattick & Clarke, 1989; European Portuguese Version: Pinto-Gouveia & Salvador, 2001) is a 19-item self-report questionnaire that intends to assess social anxiety in the interaction with others. The items (e.g., "I have difficulty making eye-contact with others") are answered in a 5-point response scale ranging from 0 ("not at all") to 4 ("extremely"). A higher score denotes higher levels of anxiety in social interaction situations. Both the original (Mattick & Clarke, 1989) and the Portuguese version (Pinto Gouveia & Salvador, 2001) showed excellent reliability, with Cronbach alphas of .94 and .90, respectively. In this study, the SIAS revealed a very good internal consistency in Group 1 (α = .95) and in Group 2 (α = .94).

Data Analyses

Data were analyzed in the IBM SPSS, Version 25 (IBM Corp., 2017) and the models of moderated mediations were tested through the PROCESS macro to IBM SPSS (Hayes, 2018), a computational tool for path analysis-based moderation and mediation analyses.

In order to analyze sociodemographic variables, descriptive statistics (mean, standard deviation, frequencies) were first performed. The differences between study groups were analyzed using Student *t*-tests for continuous variables (age, education) and chi-square tests for categorical variables (gender, gender identity, marital status, occupation, psychological counseling). Before inclusion in the models, sociodemographic variables were dichotomized (gender: 0 = Female; 1 = Male; gender identity: 0 = cisgender; 1 = TGNC - transgender and gender nonconforming people; sexual orientation: 0 = heterosexual; 1 = non-heterosexual; marital status: 0 = no partner; 1 = with partner; occupation: 0 = nonstudent; 1 = student; psychological counselling: 0 = without psychological counselling; 1 = with psychological counselling). The group differences in the study variables were determined by unadjusted multivariate analysis of variance (MANOVA). To reduce within-group error variance, three MANCOVAs were carried out with the group as independent variable, shame, coping with shame and psychopathology indicators as dependent variables and age, education, gender, marital status, occupation, and psychological counseling as covariates in the adjusted model. Although age, education and occupation showed no differences between groups, they were integrated in the model as covariates as these variables were significantly correlated with the dependent variables. Partial eta- squared (η_p^2) provided the estimate of the effect size for the analyses of variance. *Pearson* correlations were used to assess the associations between the study variables. Point biserial correlations were used to assess the correlations between dichotomous (e.g., gender) and continuous variables.

A moderated mediation was conducted to test the model in Figure 1 (Model 59; Hayes, 2018). Six moderated mediation models were estimated where internal and external shame were the independent variable; the four shame-coping styles (withdrawal, attack-self, attack-others, and avoidance) were the mediators; and anxiety, depression and social anxiety were the dependent variable; group (heterosexual vs. non-heterosexual) was the moderator; and age, education, gender, marital status, occupation, and psychological counseling were covariates. Due to the existence of missing values in the covariates, the sample in the tested models was reduced to 308 individuals. Prior to model estimation, products were mean centered to reduce multicollinearity. The conditional indirect effect was estimated using the bootstrapping procedure, with 10000 resampling. In this non-parametric procedure, confidence intervals (CI; Bias-Corrected and Accelerated Confidence Intervals) were calculated, and the conditional indirect effect was considered significant if the value of zero was not within the range of the CIs. Estimates of conditional effects at the 16^{th} (low), 50^{th}

(medium), and 84th (high) percentiles of the moderator were generated, and probe interactions was set at the .10 level.

Effect size measures were interpreted according to Cohen's classification (1988), which considers partial eta squared values between .01 and .06 as low, between .07 and .13 as average, and from .14 as high. The magnitude of the correlations was considered very low if lower than .20, low if between .21 and .39, moderate if between .40 and .69, strong if between .70 and .89, and excellent if between .90 and 1 (Pestana & Gageiro, 2008).

Results

Group comparisons

Table 2 presents the descriptive statistics of the study variables by group and the group effects in an unadjusted and adjusted model. In the unadjusted model, there was a significant multivariate effect of group on shame (internal and external), Pillai's Trace = .06, $F(2, 343) = 11.81$, $p < .001$, $\eta_p^2 = .06$, on coping with shame variables, Pillai's Trace = .09, $F(4, 341) = 7.87$, $p < .001$, $\eta_p^2 = .09$, and on psychopathology variables, Pillai's Trace = .08, $F(3, 342) = 10.38$, $p < .001$, $\eta_p^2 = .08$. Subsequent univariate tests identified significant differences in all variables except for the dimension attack-others (cf. Table 2). Overall, when compared to heterosexual individuals, non-heterosexual individuals presented higher levels of internal and external shame, more dysfunctional shame-coping styles, as well as increased psychopathology.

In the adjusted model, and controlling for age, education, gender, status, occupation, and psychological counseling, the results were the same. Specifically, there was a significant multivariate effect of group on shame, Pillai's Trace = .06, $F(2, 299) = 9.30$, $p < .001$, $\eta_p^2 = .06$, coping with shame variables, Pillai's Trace = .09, $F(4, 297) = 7.65$, $p < .001$, $\eta_p^2 = .09$, and psychopathology, Pillai's Trace = .09, $F(3, 2978) = 9.28$, $p < .001$, $\eta_p^2 = .09$. Subsequent univariate tests identified significant differences in all variables except for attack-others (cf. Table 2), with non-heterosexual individuals presenting higher levels of all study variables when compared to heterosexual individuals.

Table 2

Comparison of study variables between groups

	Unadjusted				Adjusted[a]			
	Group 1 – heterosexual individuals	Group 2 – non-heterosexual individuals	*F*	η_p^2	Group 1 – heterosexual individuals	Group 2 – non-heterosexual individuals	*F*	η_p^2
	Mean (SE)	Mean (SE)			Mean (SE)	Mean (SE)		
Internal Shame	4.9 (0.2)	6.9 (0.3)	23.50***	.06	5.1 (0.2)	7.0 (0.4)	18.56***	.06
External Shame	5.6 (0.2)	6.9 (0.3)	12.35***	.04	5.6 (0.2)	7.1 (0.3)	12.34**	.04
Withdrawal	21.9 (0.6)	26.7 (0.8)	23.62***	.06	22.0 (0.6)	27.1 (0.9)	22.30***	.07
Attack-Self	21.7 (0.7)	26.8 (0.9)	19.88***	.06	22.0 (0.6)	27.4 (1.0)	20.56***	.06
Attack-Others	12.4 (0.5)	13.3 (0.7)	1.20	.00	12.3 (0.5)	13.5 (0.7)	1.71	.01
Avoidance	20.6 (0.4)	23.0 (0.6)	11.67**	.03	20.6 (0.4)	22.9 (0.6)	9.04**	.03
Anxiety	3.8 (0.3)	5.8 (0.4)	17.83***	.05	3.8 (0.3)	5.8 (0.4)	15.41***	.05
Depression	5.2 (0.3)	8.0 (0.5)	23.42***	.06	5.3 (0.3)	8.1 (0.5)	19.97***	.06
Social Anxiety	27.5 (1.0)	35.5 (1.5)	19.7***	.05	27.9 (1.1)	35.8 (1.6)	15.94***	.05

[a] Multivariate analysis of variance adjusted for age, education, gender, marital status, occupation, and psychological counseling.

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

Correlations between the study variables

Table 3 presents the *Pearson* correlations between the study variables by group. The majority of associations were positive, moderate-to-strong and statistically significant. Among heterosexual individuals, only the avoidance strategy was not significantly associated with internal shame, depression, and social anxiety. Among non-heterosexual individuals, avoidance was not significantly correlated with internal shame, withdrawal, attack-self, and social anxiety. Additionally, the shame-coping style attack-others was not significantly correlated with internal shame and depression.

Regarding the correlations between sociodemographic variables and the study variables, among heterosexual individuals, the results showed that age was significantly and positively correlated with attack-others (r = .25, p < .001) and significantly and negatively correlated with internal shame (r = -.24, p < .001), withdrawal (r = -.15, p < .05), attack-self (r = -.20, p < .01), anxiety (r = -.20, p < .01), depression (r = -.20, p < .01) and social anxiety (r = -.21, p < .01). This indicated that older age was associated with higher levels of attacking-other and lower internal shame, withdrawal, attack-self, anxiety, depression, and social anxiety.

Gender was significantly and negatively correlated with all the variables of the study, except for attack-others and avoidance: internal shame (r_{pb} = -.25, p < .001), external shame (r_{pb} = -.25, p < .001), withdrawal (r_{pb} = -.32, p < .001), attack-self (r_{pb} = -.25, p < .001), anxiety (r_{pb} = -.19, p < .01), depression (r_{pb} = -.21, p < .01) and social anxiety (r_{pb} = -.15, p < .05). These correlations indicated that women showed greater levels of internal shame, external shame, withdrawal, attack-self, anxiety, depression, and social anxiety.

Marital status was significantly and positively correlated with attack-others (r_{pb} = .23, p < .001) and significantly and negatively correlated with internal shame (r_{pb} = -.18, p < .01), attack-self (r_{pb} = -.15, p < .05) and social anxiety (r_{pb} = -.13, p < .05). Specifically, individuals with partner showed greater levels of attack-others and lower levels of internal shame, attack-self and social anxiety.

Occupation was significantly and positively correlated with internal shame (r_{pb} = .20, p < .01), withdrawal (r_{pb} = .18, p < .01), attack-self (r_{pb} = .28, p < .001), anxiety (r_{pb} = .14, p < .05), depression (r_{pb} = .15, p < .05) and social anxiety (r_{pb} = .19, p < .01) and significantly and negatively correlated with attack-others (r_{pb} = -.18, p < .01). These correlations indicated that students showed greater levels of internal shame, withdrawal, attack-self, anxiety, depression, and social anxiety and lower levels of attack-others. Education was not associated with any of the study variables.

Finally, psychological counseling was significantly and positively correlated with internal shame (r_{pb} = .22, p < .01) and anxiety (r_{pb} = .13, p < .05) and significantly and negatively correlated

with avoidance (r_{pb} = -.14, p < .05). Specifically, individuals in psychological counseling showed greater levels of internal shame and anxiety and lower levels of avoidance.

Among non-heterosexual individuals, age was significantly and negatively correlated with attack-self (r = -.19, p < .05), anxiety (r = -.26, p < .01), depression (r = -.22, p < .05), and social anxiety (r = -.23, p < .05). These correlations indicated that younger individuals showed greater levels of attack-self, anxiety, depression, and social anxiety. Gender was not associated with any of the study variables.

Education was significantly and negatively correlated with external shame (r = -.26, p < .01), anxiety (r = -.23, p < .05) and social anxiety (r = -.23, p < .05). Specifically, individuals with less years of education showed greater levels of external shame, anxiety, and social anxiety.

Occupation was significantly and positively correlated with internal shame (r_{pb} = .30, p < .01), external shame (r_{pb} = .29, p < .01), withdrawal (r_{pb} = .36, p < .001), attack-self (r_{pb} = .37, p < .001), depression (r_{pb} = .27, p < .01) and social anxiety (r_{pb} = .38, p < .001). These correlations indicated that students showed greater levels of internal and external shame, withdrawal, attack-self, depression, and social anxiety.

Psychological counseling was significantly and positively correlated with depression (r_{pb} = .19, p < .05). Specifically, individuals in psychological counseling showed greater levels of depression.

Table 3

Correlations between the study variables by group

Variables	1	2	3	4	5	6	7	8	9
1. Internal Shame	-	.81***	.69***	.74***	.27***	.06	.53***	.64***	.62***
2. External Shame	.73***	-	.63***	.67***	.37***	.13*	.45***	.45***	.57***
3. Withdrawal	.73***	.69***	-	.84***	.46***	.30***	.44***	.53***	.59***
4. Attack-Self	.79***	.67***	.80***	-	.46***	.30***	.48***	.55***	.59***
5. Attack-Others	.14	.34***	.26**	.31**	-	.28***	.24***	.27***	.30***
6. Avoidance	.10	.20*	.13	.15	.31**	-	.13*	.13	.11
7. Anxiety	.37***	.51***	.49***	.51***	.21*	.35***	-	.70***	.39***
8. Depression	.68***	.55***	.57***	.63***	.17	.21*	.51***	-	.41***
9. Social Anxiety	.66***	.59***	.76***	.67***	.22*	.04	.41***	.48***	-

Note. Correlations for heterosexual individuals (n = 231) are shown above the diagonal; correlations for non-heterosexual individuals (n = 115) are shown below the diagonal.

*p < .05. ** p < .01. *** p < .001.

Moderated mediation: Indirect effects of dysfunctional shame-coping styles in the association between shame and psychopathology, with sexual orientation as moderator

Overall, all tested models were non-significant for the moderated mediation (cf. Table 4). However, some significant mediations and moderations in specific paths were found.

Regarding mediations, some significant conditional indirect effects were found. Specifically, there was a significant indirect effect through the shame-coping style withdrawal on the association between internal shame and anxiety (model 1) only among non-heterosexual individuals (B = 0.28, 95% CI = [0.04, 0.56]), on the association between internal shame and social anxiety (model 3) for both heterosexual (B = 0.80, 95% CI = [0.18, 1.58]) and non-heterosexual individuals (B = 1.69, 95% CI = [0.95, 2.55]), and in the association between external shame and social anxiety (model 6) for both heterosexual (B = 0.83, 95% CI = [0.27, 1.61]) and non-heterosexual individuals (B = 2.03, 95% CI = [1.11, 3.30]). This showed that among non-heterosexual individuals the association between internal shame and anxiety was only significant through the shame-coping style withdrawal. Moreover, among heterosexual and non-heterosexual individuals the association between internal and external shame and social anxiety was only significant through the shame-coping style withdrawal.

Additionally, the shame-coping style attack-self showed a significant indirect effect on the association between external shame and depression (model 5) only among heterosexual individuals (B = 0.22, 95% CI = [0.01, 0.49]). This result shows that among heterosexual individuals the association between external shame and depression was only significant through shame-coping style attack-self. The remaining models did not show significant indirect effects of shame-coping styles between shame and psychopathology. The significant and non-significant conditional indirect effects are presented in Table 5.

Table 4

Moderated mediations effects of shame on psychopathology

	Moderated Mediations						
	Index	**SE**	**95% CI**		**Index**	**SE**	**95% CI**
Model 1				**Model 4**			
IS → Withdrawal → Anxiety	0.27	0.16	[-0.04, 0.60]	ES → Withdrawal → Anxiety	0.12	0.18	[-0.18, 0.52]
IS → Attack-Self → Anxiety	0.15	0.16	[-0.19, 0.46]	ES → Attack-Self → Anxiety	-0.06	0.16	[-0.40, 0.21]
IS → Attack-Others → Anxiety	-0.06	0.04	[-0.14, 0.02]	ES → Attack-Others → Anxiety	-0.07	0.07	[-0.19, 0.07]
IS → Avoidance → Anxiety	0.003	0.03	[-0.07, 0.07]	ES → Avoidance → Anxiety	0.04	0.04	[-0.02, 0.14]
Model 2				**Model 5**			
IS → Withdrawal → Depression	0.09	0.20	[-0.27, 0.50]	ES → Withdrawal → Depression	0.10	0.21	[-0.31, 0.53]
IS → Attack-Self → Depression	0.03	0.22	[-0.42, 0.43]	ES → Attack-Self → Depression	0.01	0.19	[-0.37, 0.37]
IS → Attack-Others → Depression	-0.04	0.05	[-0.16, 0.05]	ES → Attack-Others → Depression	-0.08	0.10	[-0.28, 0.10]
IS → Avoidance → Depression	0.002	0.03	[-0.06, 0.05]	ES → Avoidance → Depression	0.03	0.04	[-0.04, 0.11]
Model 3				**Model 6**			
IS → Withdrawal → Social Anxiety	0.90	0.54	[-0.18, 1.92]	ES → Withdrawal → Social Anxiety	1.20	0.66	[-0.03, 2.57]
IS → Attack-Self → Social Anxiety	-0.17	0.58	[-1.42, 0.87]	ES → Attack-Self → Social Anxiety	-0.08	0.52	[-1.21, 0.82]
IS → Attack-Others → Social Anxiety	-0.08	0.14	[-0.34, 0.22]	ES → Attack-Others → Social Anxiety	0.07	0.23	[-0.32, 0.58]
IS → Avoidance → Social Anxiety	-0.004	0.06	[-0.11, 0.15]	ES → Avoidance → Social Anxiety	-0.05	0.09	[-0.25, 0.11]

IS: Internal Shame ES: External Shame

Table 5

Conditional indirect effects of shame on psychopathology

	Mediations					
	Group 1 – heterosexual individuals			**Group 2 – non-heterosexual individuals**		
	B	**SE**	**95% CI**	***B***	**SE**	**95% CI**
Model 1						
IS → Withdrawal → Anxiety	0.01	0.09	[-0.15, 0.20]	**0.28**	**0.13**	**[0.04, 0.56]**
IS → Attack-Self → Anxiety	0.07	0.10	[-0.13, 0.27]	0.22	0.13	[-0.07, 0.47]
IS → Attack-Others → Anxiety	0.05	0.04	[-0.01, 0.13]	-0.003	0.02	[-0.04, 0.04]
IS → Avoidance → Anxiety	0.001	0.01	[-0.02, 0.02]	0.01	0.03	[-0.07, 0.07]
Model 2						
IS → Withdrawal → Depression	0.09	0.11	[-0.16, 0.29]	0.19	0.16	[-0.13, 0.51]
IS → Attack-Self → Depression	0.02	0.13	[-0.24, 0.28]	0.04	0.17	[-0.33, 0.36]
IS → Attack-Others → Depression	0.05	0.05	[-0.02, 0.16]	0.01	0.03	[-0.03, 0.07]
IS → Avoidance → Depression	0.001	0.01	[-0.02, 0.02]	0.003	0.02	[-0.06, 0.05]
Model 3						
IS → Withdrawal → Social Anxiety	**0.79**	**0.35**	**[0.18, 1.58]**	**1.69**	**0.41**	**[0.95, 2.55]**
IS → Attack-Self → Social Anxiety	0.27	0.41	[-0.45, 0.873]	0.10	0.41	[-0.74, 0.88]
IS → Attack-Others → Social Anxiety	0.15	0.11	[-0.07, 0.367]	0.07	0.09	[-0.07, 0.26]
IS → Avoidance → Social Anxiety	-0.003	0.03	[-0.08, 0.05]	-0.01	0.06	[-0.11, 0.13]

IS: Internal Shame

Table 5

Conditional indirect effects of shame on psychopathology (continuation)

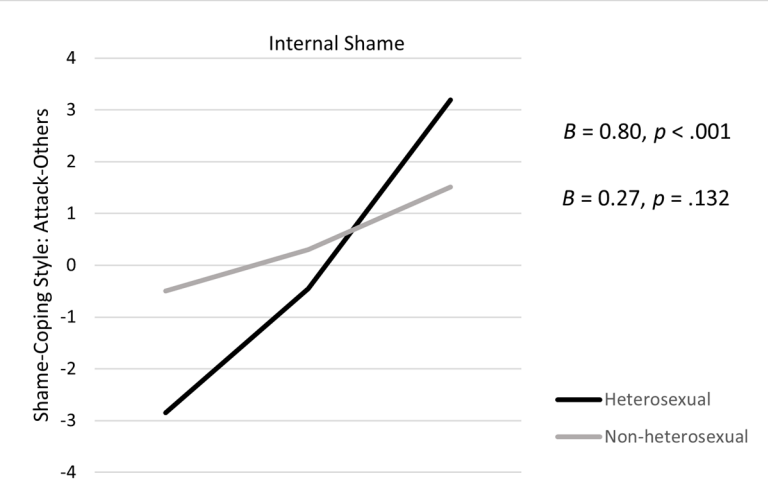
	Mediations					
	Group 1 – heterosexual individuals			**Group 2 – non-heterosexual individuals**		
	B	**SE**	**95% CI**	***B***	**SE**	**95% CI**
Model 4						
ES → Withdrawal → Anxiety	0.06	0.09	[-0.10, 0.25]	0.18	0.15	[-0.06, 0.54]
ES → Attack-Self → Anxiety	0.15	0.10	[-0.03, 0.35]	0.09	0.13	[-0.21, 0.30]
ES → Attack-Others → Anxiety	0.05	0.05	[-0.03, 0.15]	-0.02	0.05	[-0.11, 0.10]
ES → Avoidance → Anxiety	0.002	0.01	[-0.02, 0.03]	0.05	0.04	[-0.02, 0.14)
Model 5						
ES → Withdrawal → Depression	0.18	0.12	[-0.05, 0.42]	0.28	0.17	[-0.06, 0.63]
ES → Attack-Self → Depression	**0.22**	**0.12**	**[0.01, 0.49]**	0.23	0.15	[-0.06, 0.53]
ES → Attack-Others → Depression	0.05	0.06	[-0.05, 0.17]	-0.03	0.08	[-0.19, 0.12]
ES → Avoidance → Depression	-0.01	0.01	[-0.04, 0.02]	0.03	0.03	[-0.04, 0.10]
Model 6						
ES → Withdrawal → Social Anxiety	**0.83**	**0.34**	**[0.27, 1.61]**	**2.03**	**0.57**	**[1.11, 3.30]**
ES → Attack-Self → Social Anxiety	0.44	0.37	[-0.23, 1.22]	0.36	0.39	[-0.51, 1.04]
ES → Attack-Others → Social Anxiety	0.11	0.13	[-0.18, 0.36]	0.18	0.19	[-0.13, 0.60]
ES → Avoidance → Social Anxiety	-0.03	0.05	[-0.14, 0.04]	-0.08	0.08	[-0.27, 0.04]

ES: External Shame

Regarding the moderations, in the association between shame and shame-coping styles, the interaction between internal shame and sexual orientation had a significant effect only on attack-others (B = -0.53, p = .017), in model 1, 2 and 3. The results showed that only among heterosexual individuals, higher levels of internal shame were associated with higher levels of attack-others (B = 0.80, p < .001). Among non-heterosexual individuals there was no association between internal shame and attack-others (B = 0.27, p = .132) (see Figure 2).

Figure 2

Moderating role of sexual orientation in the association between internal shame and the shame-coping style Attack-others



Regarding the association between shame-coping styles and psychopathology, two significant interactions were found. First, the interaction between the shame-coping style avoidance and sexual orientation had a significant effect on anxiety (B = 0.15, p = .046), in model 4. Only among non-heterosexual individuals a significant effect was found. Among non-heterosexual individuals, higher levels of avoidance were associated with higher levels of anxiety (B = 0.16, p = .006). In contrast, among heterosexual individuals, there was no association between avoidance and anxiety (B = 0.01, p = .753) (see Figure 3). Second, the interaction between withdrawal and sexual orientation had a significant effect on social anxiety (B = 0.62, p = .036), in model 6. In both groups a significant effect was found, and higher levels of withdrawal were associated with higher levels of social anxiety. For lower levels of withdrawal heterosexual individuals had higher levels of social anxiety when compared to non-heterosexual individuals (B = 0.53, p = .003). However, when the levels of withdrawal were higher, non-heterosexual individuals had higher levels of social anxiety when compared to heterosexual individuals (B = 1.15, p < .001) (see Figure 4).

Figure 3

Moderating role of sexual orientation in the association between the shame-coping style Avoidance and anxiety

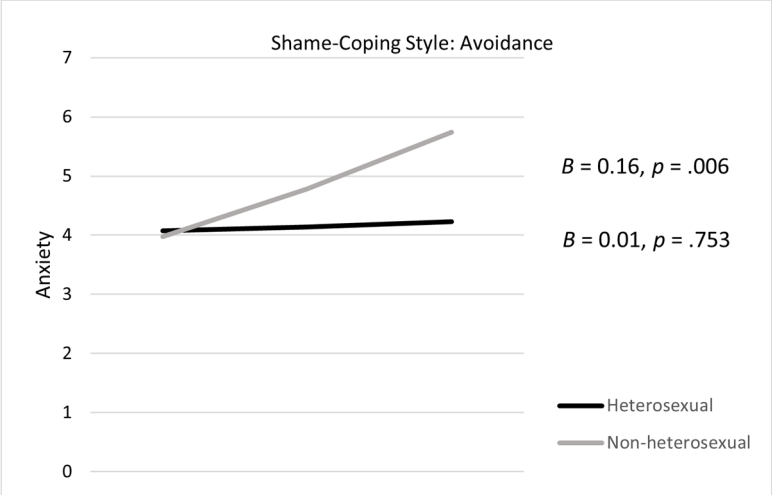
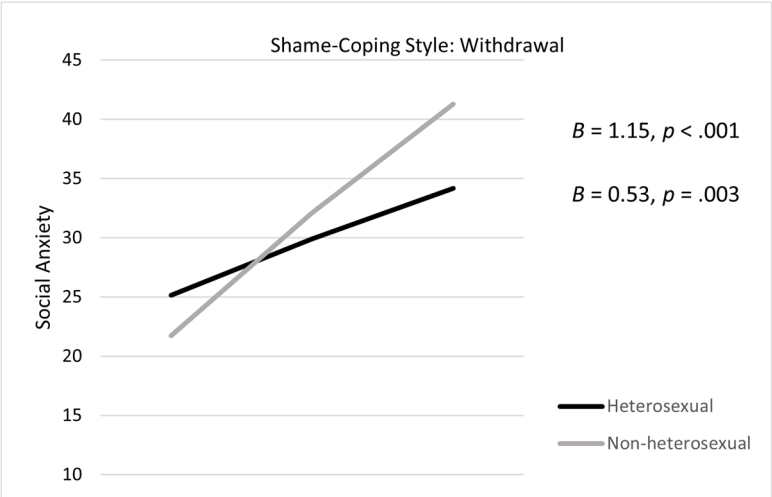


Figure 4

Moderating role of sexual orientation in the association between the shame-coping style Withdrawal and social anxiety



Regarding the association between shame and psychopathology, two significant interactions were found. First, the interaction between internal shame and sexual orientation had a significant effect on anxiety (B = -0.66, p < .001), in model 1. Only among heterosexual individuals a significant effect was found. Specifically, among heterosexual individuals, higher levels of internal shame were associated with higher levels of anxiety (B = 0.44, p < .001). Among non-heterosexual individuals the association between internal shame and anxiety was not significant (B = -0.23, p = .121) (Figure 5). Second, the interaction between external shame and sexual orientation had a significant effect on social anxiety (B = -1.38, p = .027), in model 6. Among heterosexual individuals, higher levels of external shame were associated with higher levels of social anxiety (B

= 1.42, $p < .001$), while among non-heterosexual individuals there was no significant association between external shame and social anxiety ($B = 0.04$, $p = .941$) (Figure 6).

Figure 5

Moderating role of sexual orientation in the association between internal shame and anxiety

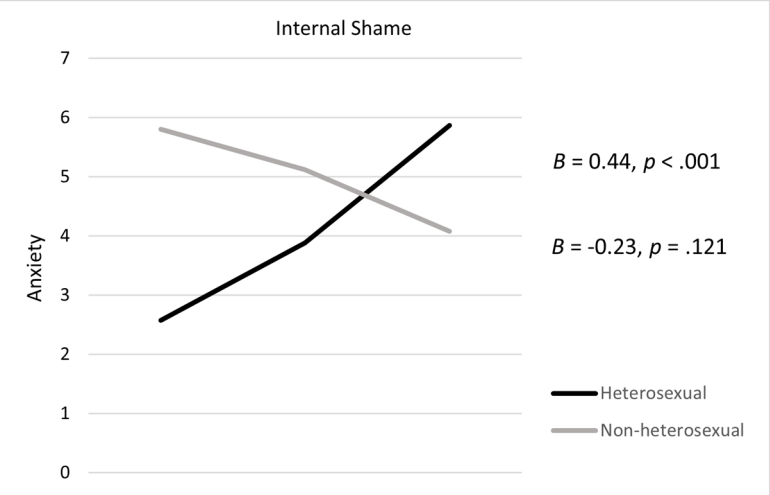
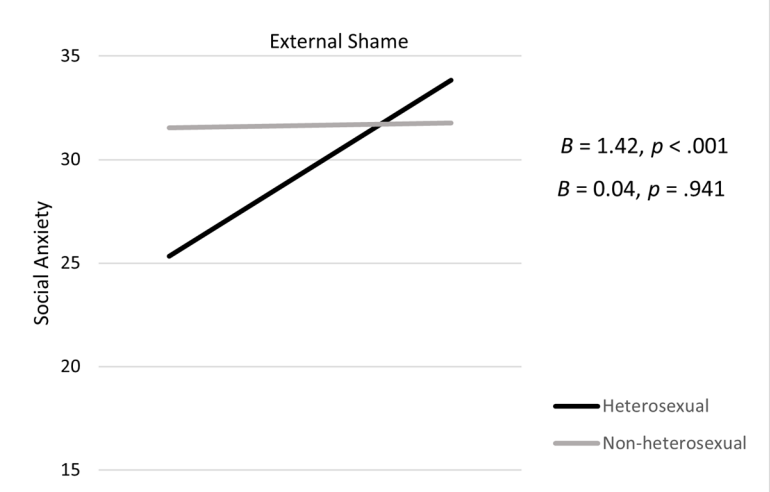


Figure 6

Moderating role of sexual orientation in the association between external shame and social anxiety



Discussion

The goal of the present study was to investigate the mediating role of shame-coping styles in the association between (internal and external) shame and psychopathology (anxiety, depression, and social anxiety), and whether these associations would differ among heterosexual and non-heterosexual individuals. Our main findings showed that non-heterosexual individuals reported higher levels of shame (internal and external) and psychopathology, as well as a greater use of self-directed shame-coping styles (withdrawal, attack-self, and avoidance). No differences in other-directed shame coping style (attack-others) were found. Additionally, in both groups, the pattern of associations between shame, shame-coping styles and psychopathology indicated that shame was positively associated with psychopathology, and that withdrawal and attack-self presented the strongest associations with psychopathology. The shame-coping style withdrawal had the most consistent mediating effect in the association between shame and psychopathology. Overall, in this study, sexual orientation does not moderated any of the hypothesized mediations.

The similar results between the unadjusted and adjusted models in group comparisons showed that there were differences even when controlling for the covariates. In accordance with our expectations (H1), and in line with previous findings, non-heterosexual individuals presented higher levels of internal and external shame, as well as higher psychopathology than heterosexual individuals. Higher levels of shame among non-heterosexual individuals could be related to a great number of factors. For example, and considering the minority stress conceptual model (Meyer, 2013), it is known that minority stress processes such as internalized homophobia, family rejection and concealment are positively related to shame (Mereish et al., 2020; Mereish & Poteat, 2015; Sherry, 2007), and may increase the experience of both internal and external shame among this population. Additionally, recent findings highlighted the potential traumatic effects of the exposure to stigma-related violence and its association to higher levels of shame (Scheer et al., 2020; Seabra et al., 2021). The higher levels of psychopathology (i.e., anxiety, depression, and social anxiety) among non-heterosexual individuals are also consistent with findings of multiple empirical studies (e.g., Bostwick et al., 2010; Cathey et al., 2014; Chakraborty et al., 2011) that showed that non-heterosexual individuals had poorer mental outcomes. This result may also be understood within the minority stress model (Meyer, 2013), which considers a set of social stressors that most non-heterosexual individuals face (i.e., discrimination, perceived stigma, concealment, and internal homophobia) and that negatively impact their mental health (e.g., Chang et al., 2020; Gonzales & Henning-Smith, 2015; Mahon et al., 2021).

In the present study, a novel finding was that non-heterosexual individuals showed a greater use of dysfunctional shame-coping styles when compared to heterosexual individuals (except

shame-coping style attack-others). Understanding dysfunctional shame-coping styles as emotional regulation strategies, this result is in line with the two studies that compared heterosexual and non-heterosexual individuals in terms of emotion regulation and that demonstrated that sexual minorities reported significantly higher levels of emotion regulation deficits (Gillikin et al., 2021; Hatzenbuehler et al., 2018). A possible explanation for this result may be that more difficulties in regulating unconformable emotions such as shame may facilitate the use of dysfunctional shame-coping styles. For example, and among non-heterosexual individuals, Pachankis et al. (2015) suggested that early exposure to socially rejecting environments may contribute to greater difficulties regulating one's emotions when coping with distress. Hence, in future studies, the hypothesis that emotion regulation deficits in sexual minorities may be predicted by negative characteristics in earlier environments would be interesting to explore. Additionally, the only shame-coping style that was not significantly different between non-heterosexual and heterosexual individuals was attack-others (i.e., the potential non recognition of the experience of shame and physical or verbal attack to others). Taken together, our results suggest that there are differences in shame-coping styles that seem more self-directed (withdrawal, self-attack, and avoidance) and no differences in the other-directed shame-coping style. Specifically, in the presence of shame, non-heterosexual individuals might resort to more self-directed shame-coping styles. In addition, coping with shame trough attacking others is not consistent with the use of other shame-coping strategies which they tend to use more, namely hiding from the shameful situation (i.e., withdrawal), turning the anger inwards (i.e., attack-self) and minimizing the shameful experience (i.e., avoidance) (Elison, Lennon, et al., 2006). Future studies would be valuable to clarify if this pattern also occurs in other groups.

As predicted in our second hypothesis, and for both heterosexual and non-heterosexual individuals, higher shame and more dysfunctional shame-coping styles were positively associated with psychopathology. This pattern of association is consistent with previous findings showing that higher levels of shame are related to lower mental health outcomes in both heterosexual (Cândea & Szentagotai, 2013; Cândea & Szentagotai-Tătar, 2018) and non-heterosexual individuals (Mereish & Poteat, 2015). Recent empirical studies showed that higher levels of dysfunctional shame-coping styles are also associated with higher levels of psychopathology (Capinha et al., 2021; Paulo et al., 2020). This result suggests that psychopathology is not only related to increased feelings of inadequacy and unattractiveness (i.e., internal shame) and to the experience of existing negatively in the mind of others (i.e., external shame), but also related to shame-coping strategies derived from the (non) acknowledgement of the shame experience. Regarding the association between (internal and external) shame and psychopathology, positive, moderate, and significant associations were found in both study groups. Concerning the association between shame-coping styles and psychopathology, the shame-coping styles withdrawal and attack-self showed positive, moderate, and significant associations with psychopathology in both groups, which is consistent

with the pattern observed in the literature (Capinha et al., 2021). In contrast, attack-others and avoidance showed mostly small or non-significant correlations with psychopathology. The latter showed the lowest associations with psychopathology in both groups. This result was not surprising and may be related to the denial aspect of avoidance (Elison, Lennon, et al., 2006). Specifically, avoidance motivation is to suppress feelings of shame and has been associated with reduced awareness of psychopathological symptoms (Elison, Lennon, et al., 2006; Vagos et al., 2019). Another potential explanation for this result is that the sample of the present study was not a clinical one. Therefore, the same study in clinical samples could have produced a different result, since psychopathology is related to more generalized patterns of avoidance or denial (Conklin et al., 2015).

Our third hypothesis was partially supported, as withdrawal and attack-self were significant mediators of some associations between shame and psychopathology, which did not happen with attack-others and avoidance. One potential explanation is that withdrawal and attack-self share the acceptance of the shame message, thus exposing the self directly to negative affect (Elison, 2019; Elison, Lennon, et al., 2006), while attack others and avoidance do not. Another potential explanation may be related to the fact that we only assessed internalizing symptomatology (anxiety, depression, and social anxiety) in the present study. Previous findings showed that withdrawal and attack-self were related to both internalizing and externalizing disorders (Paulo et al., 2020), while attack-others and avoidance were only related to externalizing disorders (Elison, Lennon, et al., 2006; Paulo et al., 2020). In fact, and considering the abovementioned associations, attack-others and avoidance were the shame-coping styles that showed the lowest association with shame and psychopathology.

In the present study, and regarding the mediations, in both study groups, withdrawal showed a significant indirect effect in the association between (internal and external) shame and social anxiety. This result suggests that the association between shame and social anxiety seems to happen through the shame-coping style withdrawal. Specifically, individuals' feelings of inadequacy and unattractiveness (i.e., internal shame) and of existing negatively in the mind of others (i.e., external shame) are associated with increased fear of negative evaluation from others (i.e., they present higher social anxiety) through hiding from the shameful situation. This result is in accordance with Elison (2019), who stated that withdrawal is linked to social anxiety given the self-chosen isolation and with the models of anxiety, including Clark and Wells' (1995) model of social anxiety, which stated that social anxiety is related to, and maintained through avoidance and safety seeking behaviors such as hiding. Given the awareness of one's discomfort, and of shameful actions (Elison, Lennon, et al., 2006), hiding or withdrawal from the situation might act as a defensive drive to prevent criticism and exclusion. Therefore, the resort to this shame-coping style may decrease the discomfort, at least in the short run, and prevent the possibility of disconfirmation

of beliefs about the negative evaluation of others and, consequently, might maintain the fear of negative evaluation from others.

In addition, and only among non-heterosexual individuals, withdrawal showed a significant mediation effect in the association between internal shame and anxiety. Particularly, this mediation suggests that the feelings of inferiority and unattractiveness (i.e., internal shame) are associated with higher levels of anxiety when individuals acknowledge the shame experience and hide from it (i.e., withdrawal), which may be particularly prominent for non-heterosexual individuals. Indeed, among sexual minorities, hiding from a shame experience might be associated with concealment, which is the decision to hide from what gives rise to stigma (Meyer, 2003), and it is common in this population. For example, Johnson and Yarhouse (2013) stated that those with concealable stigmas had a self-perception of being unique and different and that this feeling was related to anxiety. Furthermore, Meyer (2013) stated that experiences of sexual orientation violence were likely to increase vigilance (fear possible negative events), and expectations of rejection, that are naturally linked to anxiety.

Moreover, only among heterosexual individuals, there was a significant indirect effect in the association between external shame and depression through attack-self (i.e., acknowledging the shame experience and turning anger inward). The dysfunctional shame-coping style attack-self has been associated with self-criticism (Capinha et al., 2021; Elison, Lennon, et al., 2006; Vagos et al., 2018) and prior studies demonstrated a strong association between shame, self-criticism, and depression among heterosexual (Campos et al., 2010; Joeng & Turner, 2015) and non-heterosexual individuals (Puckett et al., 2015). Gilbert and Irons (2009) demonstrated that the experience of existing negatively in the mind of others (i.e., external shame) can be associated with a defensive internalized shame in which there is an identification with the mind of the other and the person self-criticizes. In addition, internalized shame is associated with depression (Gilbert & Irons, 2009). Therefore, this result among heterosexual individuals is consistent with the theory and the empirical findings. Contrarily, this result did not occur among non-heterosexual individuals. However, the pattern was similar. It is possible that the smaller size of the group may have accounted for this result. Future studies with larger samples of non-heterosexual individuals would be of value.

Regarding the moderations of sexual orientation, no general pattern was found. However, some significant interactions were found, which are discussed below. Regarding the association between shame and shame-coping styles, and only among heterosexual individuals, higher levels of internal shame were associated with higher levels of attack-others. To our knowledge, no other study has examined the association between internal shame and shame-coping styles. However, examining the associations among internal and external shame and the shame-coping style attack others in both groups, it seems that among heterosexual individuals internal and external shame were associated with the shame-coping style attack-others, while among non-heterosexual

individuals attack-others was only associated with external shame. This result might suggest that non-heterosexual individuals might resort to other shame-coping styles to deal with internal shame and to attack-others only when they perceive that they exist negatively in the minds of others. This different pattern may be associated with the higher experience of stigma (Meyer, 2013) and rejection sensitivity (Mahon et al., 2021) in which sexual minorities are confronted with the way that they appear in the mind of others and with the expectations of rejection. In contrast, heterosexual individuals seem to resort to other shame-coping styles regardless of feelings of inferiority and unattractiveness or of the perception of existing negatively in the minds of others. Given the novelty of these results, future studies specifically focused on internal shame would be warranted.

Regarding the association between shame-coping styles and psychopathology, only among non-heterosexual individuals, higher levels of avoidance were associated with higher levels of anxiety. This association suggests that non-heterosexual individuals facing an experience of shame related to sexual orientation, might resort to minimization of the shame experience (i.e., avoidance) to remain in the group, to decrease conflict and avoid shame. This motivation may increase feelings of appearing negatively in the mind of others and reinforce a nondisclosure and concealment behavior that was previously associated with higher levels of anxiety (Johnson & Yarhouse, 2013). The resort to shame-coping style avoidance may also contribute to a negative reaction of others, as it may be perceived as a passive-aggressive behavior (Elison, 2019) and naturally increase anxiety levels. In contrast, among heterosexual individuals, no significant association was found between avoidance and anxiety.

Still in the relationship between shame-coping styles and psychopathology, we found that sexual orientation moderated the association between withdrawal and social anxiety. In fact, in both groups' higher levels of withdrawal were associated with higher levels of social anxiety. However, the magnitude of the association was more pronounced among non-heterosexual individuals. This result is not entirely surprising and might be related to the fact that non-heterosexual individuals may have to make greater efforts to hide (i.e., withdrawal) a shameful situation, which is highly related to what happens in social anxiety, as previously mentioned (Clark & Wells, 1995). Additionally, this result might be associated with the sensitivity to rejection that non-heterosexual individuals might develop due to the experience of discrimination over sexual orientation (Feinstein, 2019). Contrarily, heterosexual individuals do not feel the need to hide their sexual orientation and consequently do not encounter this additional stress. This result was also in line with the stronger association between withdrawal and social anxiety among non-heterosexual individuals (r = .76), and the results that suggest that in this specific group hiding (i.e., withdrawal) has a central role in the effect of shame on social anxiety. Moreover, these results are consistent with a recent study that revealed that the experiences of discrimination were indirectly associated

with social anxiety via increased rejection sensitivity (i.e., anxious expectations of rejection based on one's sexual minority status) (Mahon et al., 2021). In addition, rejection sensitivity encompasses both cognitive (expectations of rejection) and affective (anxiety related to rejection) mechanisms that closely map on to maintenance factors of social anxiety (Wong & Rapee, 2016).

Finally, regarding the moderator effect of sexual orientation in the association between shame and psychopathology, two significant moderations emerged. Only among heterosexual individuals, higher levels of internal shame were associated with anxiety and higher levels of external shame were associated with higher levels of social anxiety. Although we cannot compare our results with other studies, which to the best of our knowledge did not associate these variables (and particularly internal shame), we nevertheless raise possible explanations for these findings, both based on the possible effect of shame-coping styles. On one hand, in the mediational analysis, we found that only among non-heterosexual individuals internal shame had an indirect effect in anxiety through withdrawal. On the other hand, although the effect of external shame on social anxiety was mediated by withdrawal in both groups, this effect was stronger among non-heterosexual individuals. We therefore suggest that the effect of internal shame on anxiety and of external shame on social anxiety was not found among non-heterosexual individuals due to the potential larger effect that withdrawal seems to exert in these association (i.e., internal shame and anxiety; external shame and social anxiety) among non-heterosexual individuals. The aforesaid stronger association between withdrawal and social anxiety among non-heterosexual individuals also seems to corroborate this finding. Future studies inspecting more comprehensively these associations would be of value.

Limitations, contribution, and future directions

Some limitations should be taken into account when interpreting these results. Regarding the study sample, there are three main limitations to acknowledge. First, the present study was conducted in general population and therefore the generalization of the reported findings to a clinical population is limited. Second, the sample relied only on Portuguese participants, which limits the generalization of the reported findings to other cultural contexts. Third, the imbalance in the study groups is also a limitation, as the global sample comprised less non-heterosexual individuals and there was not an equal representation of all non-normative orientations. Future studies could examine if the reported differences were replicated in a clinical sample of heterosexual and non-heterosexual individuals and in different cultural contexts. Furthermore, the sample was recruited by convenience and though a web-based survey; online surveys are related to population selection bias (i.e., self-selected sample), which does not offer representation to be more easily generalizable. The filing of the survey occurred during the covid-19 pandemic and therefore the effects of the impact of the pandemic should have been controlled for. In addition, the current

work relied only on self-report questionnaires, which are prone to several biases (e.g., social desirability, experiential avoidance, or gender role compliance). Therefore, future studies could investigate the effect of shame and ways of coping with shame in the levels of psychopathology in older and less schooled community samples. The cross-sectional nature of the study is also a limitation, as it does not allow for statements about the causality. Prospective longitudinal studies would be important to investigate if and how shame and shame coping strategies predict symptoms or psychological disorders. Finally, and regarding to a specific measure of this study, although the EISS (internal and external shame) validation study (Ferreira et al., 2020) addressed the concurrent validity, shame is a multidimensional construct and other content areas besides the four core domains assessed (Inferiority/Inadequacy, Exclusion, Emptiness and Criticism) may be relevant to consider.

Despite these limitations, this study offers an important theoretical contribution to the field as it is the first study to explore the association between internal shame and shame-coping styles in heterosexual and non-heterosexual individuals, as well as the study of shame-coping styles among non-heterosexual individuals. This study provides additional robustness to the research that associated shame and psychopathology in heterosexual and non-heterosexual individuals, and to the recent research on shame-coping styles. Particularly, the present study: (1) proves the group differences regarding levels of shame; (2) is the first study showing how internal shame is associated with shame-coping styles and psychopathology in heterosexual and non-heterosexual individuals; (3) adds to the literature that shame-coping styles are associated with psychopathology also in non-heterosexual individuals; (4) shows group differences only regarding the use of self-directed shame-coping styles; (5) demonstrates that withdrawal and attack-self mediate the association between shame and psychopathology in different ways in both groups; (6) and shows that sexual orientation may play a role in certain associations. Given the influence of shame-coping styles in the association of shame and psychopathology, this process may be an important target in the mental health assessment and clinical practice. The most important results to consider in clinical practice are: (1) withdrawal and attack-self were the shame-coping styles with stronger association with psychopathology; (2) withdrawal showed a mediating effect between (internal and external) shame and social anxiety among both groups; (3) withdrawal exhibited a prominent role in the association between internal shame and anxiety among non-heterosexual individuals; (4) the association between external shame and depression did not occur through attack-self, at least among non-heterosexual individuals; (5) attack-others was related to both internal and external shame among heterosexual individuals and only to external shame among non-heterosexual individuals; (6) avoidance was associated with anxiety among non-heterosexual individuals; (7) withdrawal was associated with social anxiety in both groups, but more pronounced among non-heterosexual individuals.

As the study of shame, shame-coping styles, and psychopathology among sexual minorities is novel, further research is much needed, as it could positively contribute to a greater understanding of the results reported herein. Some areas of interest may be the study of other variables that may contribute to the higher levels of shame found in sexual minorities, such as religious identity (Sherry et al., 2010), the study of other emotional regulation processes in the association between shame and psychopathology, as well as the study of the associations between shame-coping styles and externalizing symptomatology in non-heterosexual individuals.

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Annexes

Direct effects between shame and psychopathology

	Mediations							
	Group 1 – heterosexual individuals				Group 2 – non-heterosexual individuals			
	B	**SE**	***p***	**95% CI**	***B***	**SE**	***p***	**95% CI**
Model 1								
IS → Anxiety	**0.44**	**0.11**	**<.001**	**[0.21, 0.66]**	-0.23	0.15	.121	[-0.52, 0.06]
Model 2								
IS → Depression	**0.63**	**0.13**	**<.001**	**[0.38, 0.89]**	**0.66**	**0.17**	**<.001**	**[0.33, 0.98]**
Model 3								
IS → Social Anxiety	**1.55**	**0.37**	**<.001**	**[0.81, 2.28]**	0.76	0.48	.118	[-0.19, 1.10]
Model 4								
ES → Anxiety	**0.26**	**0.11**	**.015**	**[0.05, 0.48]**	0.25	0.16	.105	[-0.05, 0.56]
Model 5								
ES → Depression	0.12	0.13	.356	[-0.13, 0.37]	0.33	0.18	.076	[-0.04, 0.69]
Model 6								
ES → Social Anxiety	**1.42**	**0.35**	**<.001**	**[0.73, 2.10]**	0.04	0.51	.941	[-0.96, 1.04]

IS: Internal Shame; ES: External Shame