Stressful events during last year, violence and anxiety and depression: A moderated mediation model by sex

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Abstract

The literature suggests that being subject to a stressful life and victimization may negatively affect mental health, and that women and men seem to differ in these variables. Nevertheless, neither the mediating role of victimization experiences in the relationship between stress and mental health, nor the moderated role of sex have been explored. A sample of 826 adults, aged from 18 to 77 years old, completed a set of self-reported questionnaires (69.4% women). Results revealed significant mediation effects of psychological violence on the relationship between stress, depression and anxiety. Participants who reported more stressful life events in the previous year, also reported higher psychological abuse, which in turn predicted higher depression and anxiety. Furthermore, the moderating effects of sex were found to be statistically significant. Results suggest that interventions should be tailored to individual needs in order to prevent secondary victimization derived from biased beliefs related to stress, violence and gender in professional practice.

Keywords: stress, violence, anxiety, depression, sex differences

1. Introduction

Stress is widely studied in mental health literature, with its role being clear in the emergence, maintenance and intensification of mental health difficulties (Slavich, 2016), such as depressive and anxious symptomatology (Francis et al., 2012; Hammen, 2003; Miloyan et al., 2018). Highly useful data also exists on how biological mechanisms appear to link stress to health, namely the negative impact of stress on the immune system and inflammation processes (Slavich, 2016). There is, however, no evidence on how specific stressful life events may be associated to adults' mental health trough the role of interpersonal abusive relationships. We know that stress exposure leads to experiencing further stressful and traumatic events (Turner & Lloyd, 1995). However, the literature on stressful life events is somewhat confusing, as some studies simultaneously include conceptually different events, such as the death of someone significant or serious injuries together with violent experiences of a physical or sexual nature, for example (Atwoli et al., 2015). Conceptual differences exist between these types of events, as violence is a comprehensive multidimensional construct (including different abusive acts, such as physical, psychological or sexual), involving intentionality (as opposed to unintended events that are harmful, like an accident) and power differences in interpersonal relationships (Krug et al., 2002). Stressful life events may not necessarily involve abusive practices or negative relationships, but instead are more related to significant life changes (e.g., work change, home mobility, loss of employment, the death of someone important) (Noone, 2017). Both experiences may shape people's cognitive appraisals and coping, which in turn may explain psychological difficulties (Magalhães et al., 2021).

Adverse events may not only increase people's vulnerability to experiencing mental health problems, but anxious and depressive symptoms may also be context-specific (e.g.,

ruminative thoughts and worries about the consequences of abusive relationships, divorce or a loss of significant others) (Miloyan et al., 2018). Following a stressful event, people may demonstrate ruminative thoughts (e.g., perseverative thoughts focused on negative individual characteristics and past events) that increase depressive and anxious symptoms (Ruscio et al., 2015). Stress exposure may undermine an individual's sense of security, stability and confidence in others, which could explain greater psychological difficulties (Brown & Fite, 2016). Furthermore, differences between the sexes regarding anxiety and depression have been well-described, suggesting that women outscore men on these internalizing symptoms (Christiansen & Hansen, 2015; Jalnapurkar et al., 2018; Kiely et al., 2019; Salk et al., 2017). Women may be particularly vulnerable when stressful events occur (Hammen, 2003), showing greater stress sensitivity compared to men (Issler & Nestler, 2018). Based on these assumptions, in this article, we will test a mediation model of violence in the relationship between stressful life events and anxiety and depression as moderated by sex. We begin by describing theoretical and empirical arguments, and then present the study, summarize results and provide meaningful conclusions and implications for research and practice.

1.1 – Stressful Life Events and Mental Health: The Role of Interpersonal Violence

Developmental psychopathology postulates that risk and protective factors interact across time ending in adaptive or non-adaptive psychological outcomes (Cicchetti & Toth, 2009). Cumulative risk increases individual vulnerability to psychological disorders and these outcomes stem from the human-context interaction (Cicchetti & Lynch, 1995; Sameroff et al., 2003). Traumatic relational contexts may contribute to negative beliefs and cognitions related to the trustworthiness of significant others, which may explain a higher risk of psychopathology (Hammen, 2003). Furthermore, stressful events are often associated with some degree of

uncertainty and learned helplessness processes associated with uncertain scenarios may explain greater anxious and depressive symptoms (Francis et al., 2012; Maier & Seligman, 2016).

Stressful life events are described as harmful to mental health, with multiple events being associated with increased psychopathology, including anxiety and depression (Fedock et al., 2018; Hammen, 2003; Plieger et al., 2015). Stressful life events may increase vulnerability to experiencing further harmful events (Updegraff & Taylor, 2000), and an increased number of risk factors or stressful events may be negatively associated with psychological functioning (Cohen et al. 2016; Schonfeld et al. 2016; Turner et al., 1995). Specifically, the literature suggests that events like becoming unemployed or experiencing financial stress (Spencer et al., 2019), special needs, disabilities or poor health (Pathak et al., 2019), and marital conflict (Krug et al., 2002) are associated with greater risk of becoming a victim of intimate partner violence experiences. Furthermore, being the victim of violence is negatively associated with mental health (Ribeiro et al., 2009; Pathak et al., 2019). In sum, severely stressful events can lead to some individuals feeling confused or withdrawn and, therefore, increasingly vulnerable to the next stressful situation that arises (Updegraff & Taylor, 2000), which can result in greater mental health difficulties (Cohen et al. 2016; Plieger et al., 2015; Updegraff & Taylor, 2000).

Violence is a multidimensional concept, and those diverse sub-dimensions may affect mental health differently (Ferreira et al., 2020; Magalhães et al., 2021). Different subtypes of violence are described in the literature. Sexual violence involves any sexual act or attempt to have a sexual act, without consent and using coercion (Ali, Dhingra, & McGarry, 2016). Sexual violence with different degrees of severity (e.g., harassment, unwanted sexual attention) negatively predicts psychological well-being (Clausen et al., 2012; Schütte et al., 2014), and positively predicts increased psychopathology. Depressive symptoms and post-traumatic stress

disorder (PTSD) are particularly prevalent in this sub-type of violence (Dworkin, 2018). Psychological violence includes being humiliated and controlled, while physical violence is centered around inflicting pain through behaviors like slapping, beating or kicking (Ali et al., 2016). Although less visible and more easily hidden, psychological violence can be more harmful to victims' mental health, compared to physically abusive behaviors, namely in terms of anxiety outcomes (Lagdon et al., 2014). In addition, psychological well-being seems to be particularly impaired in victims of psychological abuse (Antunes et al., 2021; Mir & Naz, 2017).

1.2 – Stressful Life Events, Violence and Mental Health: The Role of Sex

The literature has consistently reported sex differences in mental health (Jalnapurkar et al., 2018; Kiely et al., 2019; Salk et al., 2017), however, such differences tend to decrease as people get older (Kiely et al., 2019). Women tend to report higher internalizing symptoms, such as depression and anxiety (Christiansen & Hansen, 2015; Jalnapurkar et al., 2018; Salk et al., 2017), and men report more externalizing difficulties, such as substance abuse (Ruiz-Pérez et al., 2018; Sacco et al., 2014). Not all women develop depressive symptoms after experiencing stress (Issler & Nestler, 2018), but studies suggest that they are twice as likely to be diagnosed with depression when compared to men (Salk et al., 2017). Moreover, women show greater severity of symptoms and are at greater risk of co-morbidity with anxiety, which may be related to different gene expression, neurobiology responses (Eid, Gobinath & Galea, 2019) and inflammatory and neurotrophic factors (Labaka, Goni-Balentziaga, Lebena & Perez-Tejada, 2018). Furthermore, the greater vulnerability of women to depressive symptoms could be related to their "interpersonal vulnerability" (Hammen, 2003, p. 54). In other words, women may show more negative beliefs, expectations about others and poor problem-solving strategies, making them more vulnerable to depression, when interpersonal negative events happen (Hammen,

2003). In terms of anxiety symptoms, sex differences in PTSD may be explained by women experiencing higher anxiety sensitivity, and therefore, interpreting normative worrying events as more dangerous (Norr et al., 2016). While some studies suggest that women report more stressful life events (Hammen, 2003; Norr et al., 2016), others suggest that for some specific traumatic events (e.g., physical attacks; accidents, non-sexual assaults, disaster or fire, and combat or war), men tend to be more affected than women (Street & Dardis, 2018; Tolin & Foa, 2006).

As a result of these sex differences in psychopathology, violence and stress, the association between stressful life events and mental health should be tested considering the moderating role of sex. Actually, sex differences in cognitive or emotional mechanisms underlying these results have been reported in the literature (Pineles, Hall, & Rasmusson, 2017). If lower levels of tolerance for negative emotions may be more evident in women exposed to stressful events, men tend to reveal more impulsivity. In addition, self-blame, rumination, counterfactual thinking are more reported by women, reinforcing a greater risk of anxiety symptoms (Pineles et al., 2017). Sociological frameworks emphasize social factors as predictors of mental health problems, namely, poverty, violence or gender inequality (Salk et al., 2017; Kiely et al., 2019). Furthermore, sex differences could be explained by social reinforcement of gender-specific-traits. As such, if nurturance and emotional sensitivity are commonly associated with women, power, dominance and assertiveness are particularly assigned to men (Street & Dardis, 2018). Accordingly, gender expectations about how women and men behave could also explain individual differences on how people deal with stressful events (Street et al., 2018). Faced with traumatic events, women could be at more risk of developing PTSD, for instance, through the role of helplessness (Christiansen & Hansen, 2015). Evidence suggests that sex differences in PTSD are not a product of measurement error or bias but appear to reflect

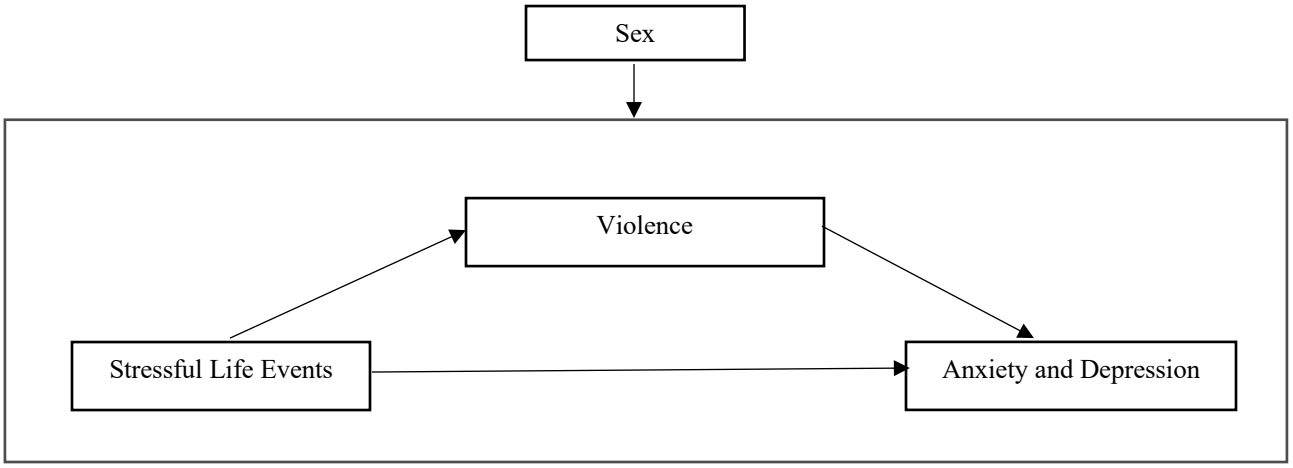
substantive differences (Christiansen & Elklit, 2012; Chung & Breslau, 2008; Tolin & Foa, 2008). Finally, there are findings suggesting significant sex differences in terms of violent experiences, with women being at higher risk of being victim of intimate partner violence (Ruiz-Pérez et al., 2018), and particularly, of sexual violence (Christiansen & Hansen, 2015; Norr et al., 2016).

1.3 – The Current Study

In light of the previously described theoretical and empirical evidence, this study aims to test the mediating role of being the victim of violence in the relationship between stressful life events and anxiety and depression, as moderated by sex (Figure 1). Despite the extensive literature, mentioned above, to our knowledge, this moderated mediation model was not explored.

We hypothesize that: H1. Stressful life events positively predict anxiety and depression, through the indirect effect of violence. H2. Sex will moderate that mediation so that the indirect effects are stronger in women. In other words, if someone experiences a greater number of stressful life events, they will be at greater risk of experiencing further traumatic experiences (i.e., violence), which may then strengthen their anxiety and depression levels. These associations would be particularly strong for women.

Figure 1. *Hypothesized moderated mediation model*



2. Method

2.1 – Participants

A sample of 826 Portuguese adults aged from 18 to 77 years old (M= 31.85; SD= 10.91), completed a set of self-reported questionnaires at the same time. Most of them were single (62.2%) and female (69.4%). Analyzing the prevalence of violence experiences (over the previous year), we found that 54% (n=450) of our participants reported at least one experience of psychological violence (n_{female}=334; n_{male}=116), 14.2% (n=117) of sexual violence (n_{female}=89; n_{male}=26) and 9.4% (n=78) of physical violence (n_{female}=52; n_{male}=26). 91% of our participants reported at least one stressful life event in the last year. The stressful life events most frequently reported by our participants were physical health problems of closely related persons (34%), physical health problems (31%), marital/relationship problems (25%) (Table 1).

Table 1

Frequency of stressful life events experienced over the last year

	Frequency (%)
Marital/ Relationship Problems	208 (25.2%)
Family Problems	194 (23.5%)
Divorce/Separation	29 (3.5%)
Prison	3 (0.4%)
Judicial Problems	25 (3%)
Burglary / robbery (e.g., at home, personal property, car)	25 (3.3%)
Accident (e.g., car, at home)	56 (6.8%)
Hospitalization	67 (8.1%)
Physical health problems	257 (31.1%)
Physical health problems of closely related persons	278 (33.7%)
Psychological problems of closely related persons	121 (14.6%)
Death of closely related persons	171 (20.7%)

Job Loss	59 (7.1%)
Work related problems/Academic related problems	142 (17.2%)
Emigration	28 (3.4%)
Emigration of closely related persons	38 (4.6%)
Change of work/school	95 (11.5%)
Change of residence	113 (13.7%)
Significant reduction of economic power	171 (20.7%)

2.2 – Measures

Sociodemographic Questionnaire. Individual characteristics, namely sex, age and relational status were collected through a self-reported sociodemographic questionnaire.

Brief Symptom Inventory (BSI; Derogatis, 1993; Canavarro 2007). Symptoms were assessed using the Portuguese version of BSI (Canavarro, 2007), which involves a set of statements answered through a five-point Likert scale, ranging from 0 (*Never*) to 4 (*Too often*). Specifically, the subscales of Depression (six items evaluating mood and affect distress/problems, lack of motivation and loss of interest in life; α=.88) and Anxiety (six items evaluating symptoms of nervousness and tension, panic attacks and feelings of terror; α=.87) were selected in this study. The reliability values were greater in this sample than in the Portuguese adaptation (Depression α=.73; Anxiety α=.77; Canavarro, 2007) These two subscales were selected given that anxiety and depression are the most prevalent mental health problems across countries (Davies et al., 2019; WHO, 2017) and also in the Portuguese context (Ministério da Saúde, 2018).

Adulthood Victimization Experiences Questionnaire (adapted from Lisboa et al., 2009 by Magalhães et al., 2019). This self-reported questionnaire, based on the experience of the previous year, was answered using a five-point Likert scale (ranging from 0 - *Never* to 4 -

Often/Frequently) and allowed for the assessment of three dimensions: a) Psychological violence (nine items; e.g., "*During the last year, have you been exposed to behaviors or words that humiliated you or made you feel diminished*?"; α= .83); b) Physical violence (five items; e.g., "*During the last year, has someone punched or beaten you?*"; α=.90); and c) Sexual violence (five items; e.g., "*During the last year, has someone had or tried to have any sexual act with you by using force or threatening to hurt you or someone close?*"; α=.81). Psychometric properties were previously explored by conducting exploratory and confirmatory factor analyses for each type of violence (Magalhães et al., 2019). Adequate fit statistics and reliability evidence were found: Psychological violence (GFI= .90, CFI= .95, SRMR=.072; α=.84); Physical violence (GFI= .97, CFI= .98, SRMR=.040; α=.90) and Sexual violence (GFI= .95, CFI= .97, SRMR=.044; α=.89).

Stressful Life Events. Our participants responded to a list of 19 stressful life events (e.g., unemployment, family problems, marital problems, death of closely related persons, etc.), based on the previous year and using a dichotomous response (yes or not). This short list of stressful life events resulted from a literature review, with those most commonly assessed being selected, however, items focusing on individual mental health problems and victimization experiences were excluded to avoid conceptual overlap.

2.3 – Procedures of data collection and analyses

This manuscript derives from a broader project focused on correlates of violence and mental health, which was approved by the University Ethics and Deontology Committee. A non-random sample of adults from the community participated in this study. The inclusion criteria stipulated that they should be at least 18 years old and understand Portuguese in order to complete the questionnaires. An online survey was used to collect data, with dissemination being

done through publications on Facebook and using a snowball strategy (i.e., inviting people to participate and further disseminate by posting the link on their Facebook page). The link was also passed on through student, teacher and university employee mailing lists. Participants agreed with the objectives of this study and with the informed consent. The whole protocol included seven questionnaires, which were filled out at the same time, during approximately 30 minutes. No financial assistance, compensation or incentives were provided.

Mediation effects of violence in the relationship between stressful events and anxiety and depression were tested through path analysis. A bootstrap approach was used to test the significance of indirect effects in the mediation model (Shrout & Bolger, 2002), with 95% confidence intervals generated with bias corrected bootstrapping (5000 resamples). To test the moderating role of sex, a multiple group model was tested with IBM AMOS for Windows (Version 25.0). An unconstrained multiple group model (i.e., with the whole path allowed to be freely estimated across both values of the moderator) was compared to a model where all paths were constrained to be equivalent across both groups (i.e., men and women). To evaluate model fit, the following fit indexes and criteria were used: the comparative fit index (CFI) $\geq$ .95, The Goodness-of-Fit statistic (GFI) $\geq$ .90, The root mean square error of approximation (RMSEA) $\leq$ .05 and the standardized root mean residual (SRMR) $\leq$ .08 (Hu & Bentler, 1999; Schreiber, Nora, Stage, Barlow, & King, 2006), as indicative of a good fit.

3. Results

3.1 – Descriptive Statistics

Statistically significant sex differences were found in the study variables, with female participants revealing greater number of stressful events in the last year, psychological violence, depression and anxiety symptoms (Table 2).

Table 2

Sex differences in stress, violence, anxiety and depression

	N = 826 *M(SD)*	Female *M(SD)*	Male *M(SD)*	*t* (824); Cohen's d
Stress	2.52 (1.95)	2.66 (1.93)	2.21 (1.95)	3.03**; 0.23
Psychological violence	.28 (.46)	.31 (.49)	.19 (.38)	3.21**; 0.27
Physical violence	.07 (.35)	.07 (.37)	.07 (.30)	.05
Sexual violence	.06 (.25)	.06 (.21)	.06 (.34)	-.18
Depression	.93 (.85)	1.02 (.87)	.72 (.75)	4.69***; 0.37
Anxiety	.95 (.82)	1.06 (.85)	.70 (.68)	6.01***; 0.47

Note: $^{**}p < .01$; $^{***}p < .001$

Correlational analyses revealed that stress is positively correlated with psychological and psysical violence, as well as with depression and anxiety. The three forms of violence were positively correlated with each other and all of them were also positively correlated with psychological symptoms. Finally, depression was positively correlated with anxiety. (Table 3).

Table 3

Correlations between stressful life events, violence, anxiety and depression

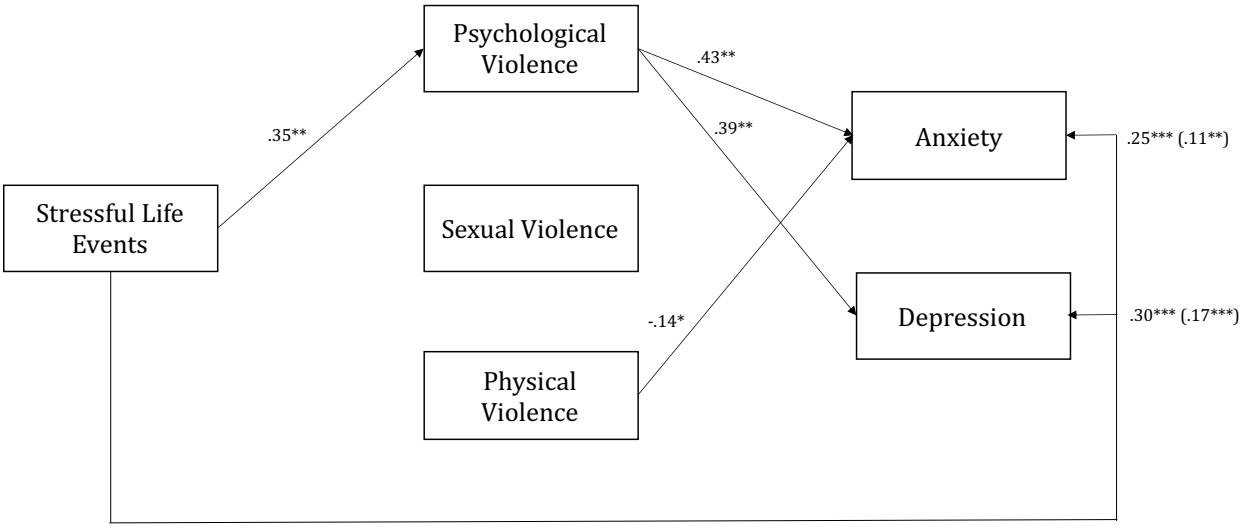
	1	2	3	4	5
1. Stressful life events	-				
2. Psychological violence	.35***	-			
3. Physical violence	.07*	.52***	-		
4. Sexual violence	.06	.32***	.49***	-	
5. Depression	.30***	.41***	.13***	.16**	-
6. Anxiety	.25***	.41***	.11**	.13***	.77***

Note: Pearson's correlation coefficient; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

3.2 – Moderated Mediation Model

The mediation model (Figure 2) presented a good fit to the data: χ^2 (1) = 89.600, p<.001; CFI = .94; GFI= .97; SRMR= .08; even considering some poor statistic values (RMSEA = .33, 90% CI [.27 to .39]). Results revealed significant mediating effects of psychological violence in the relationship between stressful events and depression (β = .13, p<.001) and anxiety (β = .14, p<.001). That is, participants who reported greater stressful life events in the previous year also reported higher psychological abuse, which in turn predicted higher depression and anxiety.

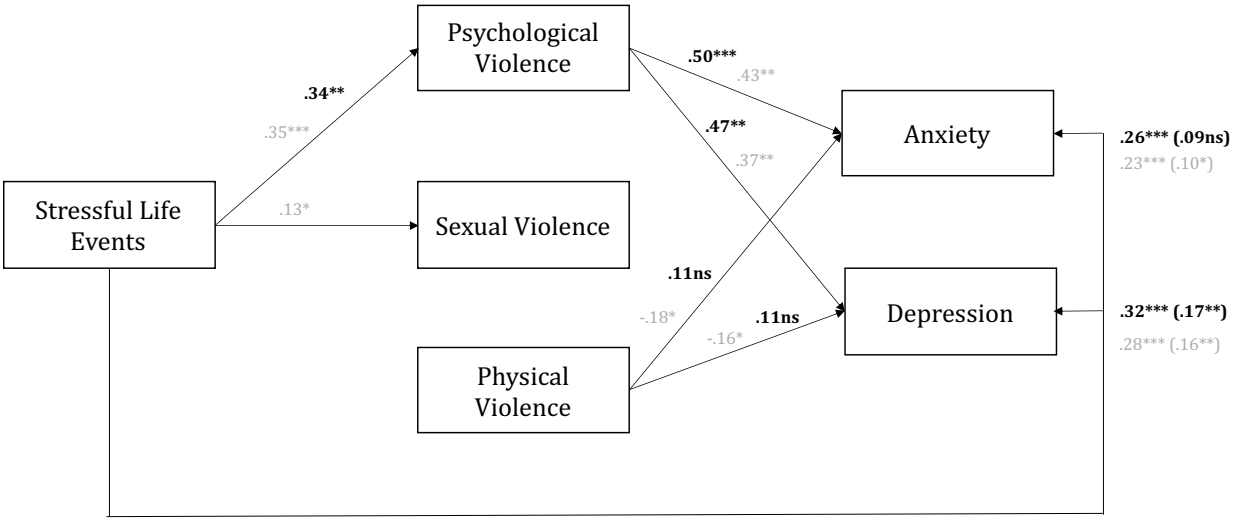
Figure 2. *The mediating role of violence in the relationship between stressful events and anxiety and depression*



The multiple group model test analyzing the moderated mediation through sex showed a significant chi-square difference between the unconstrained and the constrained models: $\Delta\chi^2$ (11) = 46.192, p <.001, indicating that the model varied significantly between female and male participants. Figure 3 shows the standardized parameter estimates of the model, separately for men in bold and for women in gray. Results of the moderation model revealed statistically significant differences between men and women in the relationship between physical violence and anxiety (zscore= 3.806, p<.001) and depression (zscore= 3.504, p<.001). Therefore, higher physical abuse experienced by women predicted lower anxiety and depression in sharp contrast

with men who experienced the opposite effect. Statistically, mediation effects of psychological violence were also found for men and women. For men, the following indirect effects were found: depression ($\beta = .16$, $p=.001$) and anxiety ($\beta = .17$, $p=.001$). For women, the following indirect effects were found: depression ($\beta = .12$, $p<.001$) and anxiety ($\beta = .13$, $p<.001$).

Figure 3. *The moderated mediation model of violence in the relationship between stressful events and anxiety and depression, by sex*



Note: standardized estimates are displayed in bold for males and in gray for females

4. Discussion

The results of the current study highlighted the role of stressful life events during last year and being the victim of violence on anxiety and depression during adulthood. Specifically, these findings supported our first hypothesis, given that psychological abusive experiences have mediated the relationship between stressful events and anxiety and depression. Those participants who reported a greater number of stressful events tended to experience more psychological abuse within the past year, which in turn predicted higher symptoms. Greater stressful life events and psychological abuse (e.g., shouts, threats, coercion and humiliation) may contribute to negative beliefs, cognitions and emotions related to the self and others (Hammen,

2003). More stressful life events entail a greater sense of unpredictability, which in turn may explain anxiety, i.e., excessive worries about different life issues or worries perceived as out of control (American Psychiatric Association, 2013) and depressive symptoms, i.e., affective distress or negative mood (Francis et al., 2012). The combination of events involving loss or humiliation seems to be harmful for individual psychological functioning, given that this kind of experience may emphasize individual feelings of devaluation (Kendler et al., 2003). Anchored on learned helplessness theories, we assume that more stressful life events may lead to a general perception that life is a pervasive context of risk and stress (i.e., people's perceived control is undermined across different events and contexts), which may explain higher vulnerability to psychological abuse and to show significant psychological difficulties (anxiety and depression). We know that the learned helplessness process (Maier & Seligman, 2016) explains a significant number of depressive symptoms (e.g., sadness, sleep problems or feelings of worthlessness) and that uncontrollability has negative effects emotionally, motivationally, and cognitively. These findings highlight the particularly negative effect of psychological violence on victims' mental health, compared to physically abusive behaviors (Lagdon et al., 2014; Magalhães et al., 2021). Alternative perspectives to the learned helplessness theories have been proposed in the context of intimate partner violence, namely those based on survival theories (Irving et al. 2020) and socioeconomic influences (Conner, 2014). These perspectives may also help us to explain these findings (e.g., on physical abuse) suggesting that different strategies can emerge in the context of abusive relationships (i.e., learned helplessness and passivity versus active and creative strategies to deal with abuse) (Irving et al. 2020). Future studies should explore these theoretical assumptions, testing the role of these different strategies considering the abusive context and the different types of abusive experiences (sexual, physical, or psychological).

The second hypothesis was not fully supported. Even considering the significance of our moderated mediation model by sex, indirect significant effects were equally significant for both groups. Significant differences were only found in the relationship between physical abuse and anxiety and depression. If for women, higher physical abuse predicted lower anxiety and depression; for men, the opposite effect was found. It is important to note that physical abuse was similarly reported by men and women in this study (around 10% in each group). Although we are only providing possible postulations and, therefore, caution is needed, this finding may suggest that for women, psychological abuse seems to be particularly hazardous. Previous evidence from a sample of women revealed that when we control for the effect of other forms of violence, physical and sexual violence seem to lose their predictive power for anxiety and depression (Cuevas et al., 2010). Perhaps, physical, and sexual abuse often goes hand in hand with psychological abuse, particularly if it is perpetrated by someone known to the victim. As such, what might be damaging about the physical and sexual abuse may be the psychological aspect of it. Furthermore, physical abuse may be associated with fewer anxiety and depression difficulties because it is usually a less frequent and long-lasting abusive experience, compared to psychologically abusive behaviors, like humiliation, persecution, or threats (Cuevas et al., 2010). Moreover, gender social constructions may also help to explain these individual differences. Emotional sensitivity tends to be more associated with women, which may explain the particularly negative effect of emotionally abusive practices on their mental health (Street & Dardis, 2018). Psychologically abusive interpersonal relationships (e.g., threats, insults, offences, and humiliation) may reinforce women's emotional vulnerability and sensitivity, and these processes may weaken their self-esteem (compared to physical violence). On the other hand, gender expectations that men should be more dominant, assertive, or powerful (Street & Dardis,

2018) may contribute to the negative effects of abusive relationships on their mental health. Abusive experiences (physical and psychological) may thwart this social construction of competence/dominance, thus contributing to individual feelings of personal devaluation and excessive worry.

There is, therefore, a lack of significant associations between sexual violence and anxiety and depression, and the lack of mediating effects. This result may be framed in a recent meta-analysis suggesting that stronger associations tend to be reported in the relationship between sexual violence and PTSD, compared to depression or anxiety (Dworkin et al., 2017). Theoretically, post-traumatic stress has been linked to previous traumatic experiences (Dworkin et al., 2017), and sexual violence (both in childhood and adulthood) has been explored according to these PTSD models (Cummings & O'Donohue, 2018; Shin et al., 2020; Trask et al., 2011; Ullman, 2016), which is not the case for physical or psychological abuse. As such, sexual violence experienced by our sample may be more associated with post-traumatic stress symptoms than with anxiety and depression. For this reason, a broader approach of psychopathology should be considered in the future, to clarify this issue. Moreover, this study included a broader operationalization of sexual violence (i.e., including non-penetrative sexual abuse, in addition to forced sexual acts) and there is evidence that this broader approach may be associated with lower effects of sexual violence on psychopathology (Dworkin et al., 2017).

Despite the relevance of these results for practice and research, this study has some limitations: the cross-sectional design, the non-random sampling, and the high proportion of women. Furthermore, it relies exclusively on self-reported measures and we were selective on psychopathology dimensions and stressful events. In the future, we may include additional psychopathology dimensions (e.g., PTSD and other BSI dimensions) and explore the role of

lifetime stressful events (beyond stressful events that occurred only in adulthood). Further research should include longitudinal designs that allow for the identification of causal patterns in these relationships, over a relatively long time period of repeated measurements, to capture significant changes during adulthood. Also, longitudinal designs would be useful to test competitive models from a multi-level perspective. This approach may enable us to disentangle the cumulative role of stressful and abusive experiences (using a path model where one leads to another across time) from the possible negative impact of their co-occurrence on mental health outcomes. Moreover, experience sampling methods could be also adopted to have a more ecologically valid picture (not retrospective but focused on current experience) about participants' experiences and feelings over time. From an ecologically based approach, the role of sociocultural factors (e.g., community violence, discrimination) that might influence the individual stressors also need to be addressed in the future. Finally, complementary measures (e.g., self-reported instruments, association tasks aiming to assess the association between stimulus representing a set of stressful events and psychological functioning), may be also considered in future research to capture both the conscious and less conscious processes associated with the experience of stressful events and violence.

Nevertheless, this study suggests some important implications for practice. First, the assessment of risk factors with individuals in vulnerable contexts (i.e., experiencing greater stressful events) is critical and must be effectively done as early as possible. Robust and adequate evaluation processes may prevent the occurrence of further negative events as it informs adequate intervention practices. Likewise, the negative role of psychologically abusive experiences on mental health suggest that psychosocial intervention services must be focused on the promotion of a greater individual sense of control, predictability and support for these

victims (Magalhães et al., 2021). Finally, our results about the moderated role of sex suggest the need to have professionals who are skilled in socio-cultural and sex-based models in order to provide evidence-based interventions in these contexts. These competencies may prevent secondary victimization experiences derived from professional practices biased by stereotypes and prejudice.

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