Depression, anxiety and PTSD in sexually abused adolescents: Association with self-efficacy, coping and family support

Cristóbal Guerra\textsuperscript{a,b,*}, Chamarrita Farkas\textsuperscript{a}, Laura Moncada\textsuperscript{c}

\textsuperscript{a} Pontificia Universidad Católica de Chile, Chile
\textsuperscript{b} Universidad Santo Tomás, Chile
\textsuperscript{c} Universidad de Chile, Chile

**ABSTRACT**

Sexual abuse has the potential to generate serious emotional consequences for its victims, but there is high variability in the symptoms reported by different victims. Therefore, it is necessary to ascertain the factors associated with the symptoms presented by sexual abuse victims. The aim of the study was to use a single model to evaluate the relationship between sexual abuse characteristics (frequency, violence, relation with the aggressor and physical commitment), cognitive and behavioral factors (self-efficacy, active coping and perceived family support) and internalizing symptoms (anxiety, depression and posttraumatic stress) in a group of sexually abused adolescents. The participants included 106 female adolescent victims of sexual abuse (\(M = 14.25\) years, \(SD = 1.74\)). The results of a path analysis indicated that sexual abuse characteristics were unrelated to symptomatology. Only a negative relationship was observed between the victim's relationship with the aggressor and PTSD symptomatology. The violence of the sexual abuse was negatively related to self-efficacy, and self-efficacy was positively related to active coping and negatively related to symptomatology. Finally, the perception of family support was positively related to self-efficacy and negatively related to symptomatology. These results suggest the need to consider the studied factors in the process of psychotherapy with victims of sexual abuse.

1. Introduction

Sexual abuse against children and adolescents refers to their involvement in any sexual activity that they do not fully comprehend, for which they are unable to provide informed consent, or for which they are not developmentally prepared (World Health Organization, 1999). Sexual abuse is considered one of the most serious forms of child and adolescent maltreatment, and it has the potential to cause serious mental health problems throughout a person's lifetime (Beitchman, Zucker, Hood, daCosta, & Akman, 1991; Kendall-Tackett, Williams, & Finkelhor, 1993; Pereda, 2009).

Abundant evidence indicates that adolescents who were victims of child sexual abuse have high rates of internalizing symptoms, among which posttraumatic stress disorder (PTSD), depression and anxiety are prominent (Arredondo, 2002; Pereda, 2009; Saywitz, Mannarino, Berliner, & Cohen, 2000). However, there is high variability in the levels of symptoms across victims (Caffaro-Rouget, Lang, & van-Santen, 1989; Echeburúa & Guerra-Cachevarría, 2005). Consistent with this idea, a recent Chilean study on adolescent victims of sexual abuse concluded that symptoms of PTSD, depression and anxiety varied widely across victims and that a higher percentage of victims had moderate levels of symptoms, whereas a lower percentage had extremely high or low levels (Guerra &
In recent decades, several authors have proposed theoretical models to explain this variation (e.g., Alexander, 1992; Finkelhor & Browne, 1985; Spaccarelli, 1994; Wolfe, Gentile, & Wolfe, 1989). Although these models have particularities, they all suggest that the intensity of symptoms varies depending on the interaction among personal variables, social variables, and sexual abuse characteristics. Previous investigations have consistently provided empirical evidence of the importance of specific variables. For example, previous research has found gender differences in the type and intensity of internalizing and externalizing symptoms in adolescents or adults who were sexually victimized in their childhood (Cantón & Cortés, 2001; Guerra & Farkas, 2015; Guerra, Martínez, Ahumada, & Díaz, 2013; Hébert, Lavoie, Blais, & members of the PAJ team, 2014). Furthermore, numerous studies have shown that the perception of social support, especially from the family, is one of the most important factors in preventing psychopathology in children and adolescents exposed to sexual abuse (Bal, Crombez, De Bourdeaudhuij, & Van Oost, 2009; Leech, 2011; Spaccarelli & Kim, 1995; Williams & Nelson-Gardell, 2012; Zajac, Ralston, & Smith, 2015).

Regarding the effects of the different characteristics of abuse (e.g., the type and frequency of the abuse, whether the aggressor used violence), previous research has produced contradictory results. Some authors note that sexual abuse generates the most intense symptoms if it involves more physical commitment (rape over sexual abuse without penetration), if it occurs more frequently, if there is more violence, or if the aggressor is a significant person in the child’s or adolescent’s life (Ruggiero, McLeer, & Dixon, 2000; Stern, Lynch, Oates, O’Toole, & Cooney, 1995). In contrast, other evidence indicates that these variables have no direct effect on the intensity of symptoms in sexually abused adolescents (Bal et al., 2009; Daigneault, Hébert, & Tourigny, 2006; Edmond, Auslander, Elze, & Bowland, 2006).

These contradictory results reveal the complexity of the process of symptom development in sexually abused adolescents. It is possible that part of the negative effect of sexual abuse may be direct and that another part may be indirect or mediated by other factors. For this reason, it is challenging for researchers to analyze the processes through which the different characteristics of abuse produce damage in victims, even though its effects may not be direct.

The indirect relationship between sexual abuse and symptoms can be explained at least partly by the classic cognitive behavioral model (Beck, 1987; Ellis, 1995). This point of view considers that the symptoms associated with stressful events depend not only on the characteristics of the event but also on how the individual evaluates and copes with the situation. Individuals exposed to similar situations have different emotional reactions because they process the situations in different ways. Authors with this perspective argue that the effect of stressful and traumatic events on symptoms is not direct; rather, it is mediated by cognitive and behavioral factors (Bandura, 1977; Beck, 1987; Ellis, 1995).

Some studies have concluded that certain cognitive factors, such as the perception of stigmatization, betrayal and self-blame by the victim, predict symptoms in children, adolescents and adults who were sexually abused during their childhood (Coffey, Leitenberg, Henning, Turner, & Bennet, 1996; Daigneault et al., 2006; Plaza, Beraud, & Valenzuela, 2014). However, the role of another important factor, self-efficacy, has not been sufficiently explored in the literature despite theoretical support for its importance (Bandura, 1977; Lazarus, & Folkman, 1984). Therefore, this study addresses the symptomatology of victims of sexual abuse using a cognitive behavioral model that focuses on self-efficacy.

1.1. The possible relationship between the self-efficacy and symptoms of sexual abuse victims

Self-efficacy is one of the cognitive factors that could explain emotional reactions to traumatic situations. In this context, this factor refers to individuals’ belief in their ability to cope with excessive demands caused by traumatic events (Benight & Bandura, 2004).

Although this factor in relation to victims of sexual abuse has received little attention in the literature, theory suggests that self-efficacy can have a mediating role in the relationship between a traumatic event and its symptoms. Specifically, it has been argued that stressful situations may reduce self-efficacy because the individual interprets that he does not have the necessary resources to overcome the situation (Bandura, 1977; Benight, Swift, Sanger, Smith, & Zeppelin, 1999; Diehl & Prout, 2002; Maddux, 1995). In contrast, high self-efficacy operates as a resilience factor in victims of different traumatic events. People with higher self-efficacy are less likely to have symptoms, as demonstrated by various studies on traumatized adults (Benight & Lehman, 2002; Cieslak et al., 2008; Kushner, Riggs, Foa, & Miller, 1993) and traumatized adolescents (Guerrn, Cumsille, & Martínez, 2014). It is therefore plausible to presume that more violent sexual abuse may affect the self-efficacy of adolescents; moreover, the lower their self-efficacy, the greater the symptomatology of sexual abuse victims.

However, several authors warn that the process of symptom development is highly complex. The protective effect of self-efficacy is itself mediated by coping strategies, defined as individuals’ cognitive and behavioral efforts to manage the demands of stressful situations (Lazarus & Folkman, 1984). Self-efficacy can help adolescents develop the self-confidence required to actively cope with stressful situations, first at the cognitive level (by analyzing the problem) and then at the behavioral level (by looking for help). Active coping can help victims solve problems caused by a traumatic event and process its consequences (Bandura, 1977; Bandura, 2006; Benight & Bandura, 2004; Diehl & Prout, 2002; Kazemi & Kohandel, 2015).

Studies conducted with sexually abused adolescents (Bal et al., 2009; Daigneault et al., 2006) and with adults who were sexually abused in childhood (Cantón-Cortés & Cantón, 2010; Cantón-Cortés, Cantón, Justicia, & Cortés, 2011; Cantón & Justicia, 2008; Johnson, Sheahan, & Chard, 2003; Kuyken, & Brewin, 1999) have shown that avoiding coping, where the individual evades or refuses to address the problem, is not effective in preventing symptoms of sexual abuse. Although the role of active coping is less clear in these studies, some evidence supports the inverse relationship between active coping and symptoms in adolescents and adults traumatized in their childhood (Guerra, Ocaranza, & Weinberger, 2016; O’Leary, 2009).
It has also been suggested that family support not only decreases the risk of symptoms in victims of sexual abuse (Bal et al., 2009; Leech, 2011; Spaccarelli & Kim, 1995; Williams & Nelson-Gardell, 2012; Zajac et al., 2015) but also affects the cognitive and behavioral variables previously mentioned. Specifically, family support promotes self-efficacy and the use of active coping strategies in adolescents because that support conveys to the abused adolescent that she or he has the necessary resources to face such adversity (Bandura, 1977; Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Benight, Ironson, & Durham, 1999; Lazarus & Folkman, 1984; Maddux, 1995). This finding emphasizes the importance of this variable in understanding the symptoms that result from sexual abuse.

1.2. The current study

Although the results of previous studies support cognitive behavioral theories of symptom development in victims of traumatic events, to our knowledge, no studies have evaluated the roles of self-efficacy, coping and family support in the same model. As Banyard (2003) suggests, it is necessary to evaluate explanatory models of sexual abuse symptoms that include multiple variables simultaneously in order to provide relevant information for the design of psychotherapy programs for victims. Therefore, the objective of this study was to analyze a model of the relations between sexual abuse factors, cognitive and behavioral factors, and symptoms in Chilean adolescent victims of sexual abuse.

The vast majority of international studies come from English-speaking countries, and studies in Latin American countries are lacking. Due to the cultural and economic differences between the two contexts, studies with the Latin American population are necessary (Rojas-Méndez, Coutiño-Hill, Bhagat, & Moustafa, 2008). Particularly in Chile, the legal treatment of sexual abuse is highly revictimizing. Young people who have suffered sexual abuse are highly questioned by the judicial system and must testify on countless occasions. Due to this particularity, Chilean adolescents are not necessarily comparable to adolescents in countries with less adverse judicial systems for victims (Guerra & Bravo, 2014). Unfortunately, in Chile, very little research has examined the effectiveness of treatments for victims of child sexual abuse or the factors that should be included in these treatments (Capella & Gutiérrez, 2014; Guerra & Arredondo, 2017).

The proposed model (see Fig. 1) can be operationalized based on the following hypotheses. First, we expected that the greater the severity of the abuse (more violent and more frequent abuse, abuse committed by an individual close to the victim and abuse with greater physical commitment), the greater the symptomatology (depressive, PTSD and anxious symptoms). Second, we expected that the relationship between the violence of the sexual abuse and symptomatology would be mediated by self-efficacy. In other words, the higher the violence, the lower the self-efficacy; the lower the self-efficacy, the higher the symptoms. Third, we expected that part of the effect of self-efficacy on symptoms would be mediated by active coping strategies: the greater the self-efficacy, the greater the use of cognitive active coping; the greater the cognitive active coping, the greater the use of behavioral active coping; and the greater the level of behavioral active coping, the less severe the symptoms. Fourth, we expected that the perception of family support would be positively related to self-efficacy and to active coping strategies and negatively related to symptoms.

In this model, we included control variables that have been relevant in previous studies. These variables were the amount of time since the last episode of abuse (Guerra & Pereda, 2015) and the experience of other lifetime events that could explain the symptoms (Álvarez-Lister, Pereda, Abad, Gilera, & GReVIA, 2014; Finkelhor, Ormrod, & Turner, 2007).

2. Methods

2.1. Participants

This study included 106 female adolescents who were 12–17 years of age ($M = 14.25, SD = 1.74$). All participants had been victims of sexual abuse (62.3% without penetration and 37.7% with penetration). Seventy-two (67.9%) had been abused by a family
member, 29 (27.4%) had been abused by a person outside of the family who was known to the victim, and five (4.7%) had been abused by a stranger. Most of the participants (74.5%) had been sexually abused on more than one occasion.

In all cases, the last episode of sexual abuse occurred less than 24 months prior to the study: two (1.9%) cases occurred less than one month prior to the study, 44 (41.5%) cases occurred between one and six months prior to the study, 20 (18.9%) cases occurred between six months and one year prior to the study, and 40 (37.7%) cases occurred between one and two years prior to the study. The victims had started psychotherapeutic sessions at specialized centers for victims of sexual abuse in Chile (between two and five sessions).

None of the participants were taking medication to control their symptoms. All cases were handled by the court system. Thirty-two (30.2%) of the participants had suffered a traumatic event other than sexual abuse in the last 24 months that could explain their symptoms (e.g., bullying, physical maltreatment, or the death of a family member).

2.2. Procedure and ethical issues

This project was independently approved by the university’s ethics committee, by the technical committees of two institutions that manage centers for victims of sexual abuse, and by the directors of 17 centers for victims of sexual abuse in Chile. Legal guardians were required to provide their informed consent, and the participants gave their active consent to participate in the study.

As recommended by Guerra and Pereda (2015), to avoid exposing participating adolescents to stressful instruments, their own psychotherapists responded to the questionnaire about the adolescents’ history of victimization using the information available in clinical records. Along the same lines, to avoid contact between the adolescents and unknown researchers, their own psychotherapists administered the battery of instruments after being trained on their use by the research group. The psychotherapists of 17 Chilean centers that provide support to victims of sexual abuse followed a protocol that outlined the recruitment of the adolescents, the requests for written informed consent from both the legal guardians and the young participants, the administration of the questionnaires and the guidelines for a support session for the victim after her participation in the series of tests. The inclusion criteria to recruit the adolescents were as follows: 1) the adolescent had been the victim of sexual abuse within the last two years, 2) an allegation in the legal system to protect the adolescent exists, 3) the adolescent had begun psychotherapy (two to five sessions), and 4) the therapist had sufficient reliable information about the adolescent’s history of victimization. The exclusion criteria were as follows: 1) the adolescent was receiving parallel mental health treatment (psychotherapy or pharmacotherapy), 2) the adolescent had literacy deficiencies that would prevent her from answering self-report scales, and 3) the psychotherapist treating the adolescent objected to her participation (by referring to clinical criteria concerning the risks that this application of instruments could produce for the victim).

The therapists explained the research objectives to the adolescents and their parents or legal guardians separately. They also explained the voluntary nature of participation. The test was administered only when the adolescents, their parents and their therapists gave their consent. The process of obtaining the sample was difficult due to the restrictions in the selection criteria. We did not ask for explanations from people who did not give their consent, and we did not record any of their data. We estimate that of the total number of adolescents who met the inclusion criteria, only 40% participated in the study.

The instruments were administered individually in a single session and in a private room. In general, the participants did not describe the procedure as unpleasant. Only four participants (3.8%) noted that the procedure was “rather” or “extremely” unpleasant ($M = 1.56; SD = 0.92$). In all cases, the therapists generated a supportive space and monitored the progress of the adolescents during the psychotherapy process.

2.3. Measurements

2.3.1. Questionnaire about the history of the victimization of adolescents

We asked the psychotherapists for the following information: the timing of the last episode of sexual assault experienced by the adolescent ($1 = \text{less than 1 month ago}; 2 = 1–6 \text{ months ago}; 3 = 6 \text{ months–1 year ago}; 4 = 1–2 \text{ years ago}$), the relationship between the adolescent and her aggressor ($1 = \text{unrelated, unknown aggressor}; 2 = \text{moderate relationship, aggressor outside the family house but known by victim}; 3 = \text{close relationship, aggressor within the family and living in the same house}$), the violence used by the sexual aggressor ($1 = \text{low violence, the offender did not use physical violence or threats}; 2 = \text{the offender used indirect threats}; 3 = \text{the offender used direct and explicit threats}; 4 = \text{the offender hit or took the adolescent by force}; 5 = \text{high violence, the offender strongly hit or used weapons to hurt the adolescent}$), and the experience of other traumatic events within the past two years that could explain the symptoms ($1 = \text{no}; 2 = \text{yes}$).

2.3.2. Multidimensional scale of perceived social support (Zimet, Dahlem, Zimet, & Farley, 1988)

This scale is a self-report instrument that assesses the perceptions of peer support (four items), family support (four items) and support from a significant person (four items). The response options range from $1 = \text{very strongly disagree}$ to $4 = \text{very strongly agree}$. The score on each subscale is obtained from the sum of its answers (higher scores indicate greater perceived support). In this study, we used only the score for family support (possible scores between 4 and 16). Additionally, we used the translated version validated for Chile (Arechavala & Miranda, 2002). Cronbach’s alpha obtained in the present study was 0.83.

2.3.3. Generalized self-Efficacy scale (Schwarzer & Jerusalem, 1995)

This is a self-administered scale with 10 items. We asked participants to answer the items indicating how capable they felt in...
coping with the difficulties associated with sexual abuse. The response options range from 1 = not at all true to 4 = exactly true. The total score is obtained from the sum of all answers (possible scores between 10 and 40). Higher scores indicate greater perceived self-efficacy. Cid, Orellana, and Barriga (2010) reported good internal consistency and convergent validity of the scale in a Chilean sample that included adolescents. Cronbach’s alpha obtained in the present study was 0.83.

2.3.4. Adaptation of the youth coping scale (Ongarato, de la Iglesia, Stover, & Fernández-Liporace, 2009)

This version evaluates the frequency of two types of active coping to manage the difficulties associated with sexual abuse: cognitive active coping, which is linked to the analysis of the situation and its possible consequences (5 items), and behavioral active coping, which is linked to the search for social support (6 items). The response options range from 1 = never to 4 = always. The total scores are obtained from the sum of the scores for each subscale (possible scores between 5 and 20 and between 6 and 24, respectively). Higher scores indicate a higher frequency of use of active coping strategies. Cronbach’s alphas obtained in the present study were 0.61 and 0.64, respectively, for the cognitive active coping and behavioral active coping subscales.

2.3.5. Child PTSD symptom scale (Foa, Johnson, Feeny, & Treadwell, 2001)

This self-report instrument has 17 items that evaluate the severity of PTSD symptoms in the preceding two-week period. The response options range from 0 = never to 4 = nine times or more. The total scores are obtained from the sum of all answers (range from 0 to 68; higher scores indicate greater symptomatology). In this study, we used the version adapted for use in Chile (Bustos, Rincón, & Aedo, 2010). The Chilean version showed good indices of convergent validity and reliability in a study with adolescent victims of sexual abuse. Cronbach’s alpha obtained in the present study was 0.89.

2.3.6. Depression self-Rating scale (Birleson, 1981)

This is a self-rating scale with 18 items that evaluate the frequency of depressive symptoms within the last week. The response options range from 0 = never to 2 = mostly. The total score is obtained from the sum of all answers (for the reverse-scored items, it is necessary to adjust the scores). The total scores range from 0 to 36 points (higher scores indicate greater depressive symptoms). In this study, we used the version translated for Chile (Álvarez, Guijardo, & Messen, 1986). The Chilean version showed good indices of convergent validity and reliability in a study with adolescent victims of sexual abuse (Plaza & Saiz, 2013). Cronbach’s alpha obtained in the present study was 0.89.

2.3.7. State anxiety subscale of the state-trait anxiety inventory (Spielberger, Gorsuch, & Lushene, 1982)

This self-report instrument has 20 items that evaluate transient symptoms of anxiety. The response options range from 0 = never to 3 = always. The total score is obtained from the sum of all answers (for the reverse-scored items, it is necessary to adjust the scores). The total scores range from 0 to 60 points (higher scores indicate greater anxiety). This inventory showed good indices of convergent validity and reliability in a study with Chilean adolescents (Guerra et al., 2013). Cronbach’s alpha obtained in the present study was 0.92.

To address ethical considerations (Guerra & Pereda, 2015; Priebe, Bäckström, & Ainsaar, 2010), we added a question concerning the possible emotional impact of the study on the adolescents, with response options ranging from 1 = not at all to 5 = extremely.

2.4. Data analysis

First, we calculated the average scores, standard deviations and ranges for all variables. We also used the Kolmogorov-Smirnov test with a Lilliefors correction to evaluate the distribution of scores in the study variables. These analyses were performed using SPSS software (IBM Corporation, 2012).

Finally, after any multicollinearity problems were ruled out, the fully proposed model (see Fig. 1) was tested using a path analysis in the MPlus statistical program (Muthen & Muthen, 1998–2012). Given that the sample size was small and that the variables were not normally distributed, we used maximum likelihood as the method of estimation, with bootstrapping of 10,000 iterations (non-parametric resampling) (Mackinnon, Lockwood, &Williams, 2004).

The path analysis was performed by controlling for two variables: the time elapsed since the last episode of abuse and the existence of other traumatic events in the past two years that could explain the symptoms. Based on Schumacker and Lomax (2004), we evaluated the model fit based on the following indicators: \( \chi^2 p > 0.05 \); \( \text{RMSEA} \leq 0.08 \); and \( \text{CFI} \geq 0.90 \).

3. Results

3.1. Descriptive results

As we noted in the section that described the participants, most of the adolescents were victims of sexual abuse without penetration (62.3%), the most frequent aggressor was a family member (67.9%), and most participants were abused on more than one occasion (74.5%). Compared with the range of possible scores, the average scores suggest that the sexual abuses suffered by the sample were moderately violent and were more associated with threats and intimidation than with physical aggression (2.72 points out of a maximum of 5). Additionally, the average scores suggest that participants reported moderate levels of self-efficacy to cope with the traumatic events that they had experienced (26.62 points of a maximum of 40), a moderate level of family support (11.09 points of a maximum of 16), a moderate frequency of active cognitive coping (12.16 points of a maximum of 20) and a low frequency
Table 1
Descriptive statistics for the study variables (n = 106).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Total Range</th>
<th>Kolmogorov-Smirnov Lilliefor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relation with aggressor</td>
<td>1.37</td>
<td>0.57</td>
<td>1–3</td>
<td>0.42*</td>
</tr>
<tr>
<td>Frequency</td>
<td>2.20</td>
<td>0.82</td>
<td>1–3</td>
<td>0.29*</td>
</tr>
<tr>
<td>Violence</td>
<td>2.72</td>
<td>1.19</td>
<td>1–5</td>
<td>0.19*</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>26.62</td>
<td>5.74</td>
<td>14–37</td>
<td>0.09</td>
</tr>
<tr>
<td>Family Support</td>
<td>11.09</td>
<td>3.26</td>
<td>4–16</td>
<td>0.13*</td>
</tr>
<tr>
<td>Cognitive Coping</td>
<td>12.16</td>
<td>3.06</td>
<td>6–20</td>
<td>0.09</td>
</tr>
<tr>
<td>Behavioral Coping</td>
<td>11.57</td>
<td>3.69</td>
<td>6–21</td>
<td>0.16</td>
</tr>
<tr>
<td>PTSD</td>
<td>38.76</td>
<td>15.06</td>
<td>0–63</td>
<td>0.10</td>
</tr>
<tr>
<td>Depression</td>
<td>17.72</td>
<td>7.56</td>
<td>1–34</td>
<td>0.10</td>
</tr>
<tr>
<td>Anxiety</td>
<td>21.39</td>
<td>12.31</td>
<td>0–48</td>
<td>0.12</td>
</tr>
</tbody>
</table>

* p < 0.05.  
** p < 0.01.

of active behavioral coping (11.57 points of a maximum of 24). With respect to the symptoms, participants reported moderate levels of PTSD (38.76 points of a maximum of 68), depression (17.72 points of a maximum of 36), and anxiety (21.39 points of a maximum of 60).

Although the variables are not normally distributed, the variation is high. The range of scores for each of the variables analyzed approaches the minimum and maximum possible scores, considering the scoring scales of the instruments. Table 1 shows the means, standard deviations, ranges, and normal distribution adjustments of each of the variables.

3.2. Path analysis of the proposed model

We used path analysis to evaluate the relationships between the study variables in a single integrated model. The results of the proposed path analysis (Fig. 1) are presented in Table 2. We performed a single path analysis that simultaneously included the three dependent variables (PTSD, depression, anxiety) to control for the relationships between them.

Concerning the first hypothesis, we did not find a relationship between the severity of the abuse and the symptomatology. Moreover, no relationship was observed between the symptomatology and the physical commitment, frequency or violence of the sexual abuse. Only a negative relationship was observed between the victim’s relationship with the aggressor and PTSD symptomatology.

In regard to the second hypothesis, the violence of sexual abuse was negatively related to the level of self-efficacy. Additionally, self-efficacy was negatively associated with the symptomatology of PTSD, depression, and anxiety. The mediation effect of self-efficacy on the relationship between violence and symptomatology did not reach statistical significance (β indirect effect = 0.05; p = 0.13 in PTSD; β indirect effect = 0.06; p = 0.07 in depression; β indirect effect = 0.06; p = 0.08 in anxiety).

In regard to the third hypothesis, although self-efficacy was positively associated with cognitive coping and thus with behavioral coping, the path analysis did not show any relationships between coping and symptoms. Finally, concerning the fourth hypothesis, there was no correlation between family support and coping strategies. Instead, family support was positively associated with self-efficacy and negatively associated with symptoms. This result indicates a path of partial mediation by self-efficacy (the greater the family support, the greater the self-efficacy; the greater the self-efficacy, the lower the symptoms). This mediation was significant in the case of PTSD (β indirect effect = −0.10; p < 0.05), depression (β indirect effect = −0.15; p < 0.01), and anxiety (β indirect effect = −0.13; p < 0.01).

The model had a good fit (χ² [28] = 31.223, p > 0.05; RMSEA = 0.03; CFI = 0.99) and explained 19% of the variance in PTSD, 36% of the variance in depression, and 35% of the variance in anxiety. Fig. 2 schematically shows the statistically significant regression coefficients obtained.

4. Discussion

The aim of this study was to analyze a model of the relationships among sexual abuse factors, cognitive and behavioral factors, and symptoms in Chilean adolescent victims of sexual abuse. The proposed model suggests that the severity of abuse is directly and positively related to symptoms but that the relationship between the violence of the sexual abuse and internalizing symptoms is mediated by self-efficacy. The theoretical model also suggests that the relationship between self-efficacy and symptoms is mediated by active coping strategies and that the perception of family support is positively related to self-efficacy and negatively related to symptoms.

Although not all hypotheses were supported, the proposed model showed a good fit. Specifically, the results show that the severity of sexual abuse had no direct relationship with symptomatology. This finding contradicts the hypotheses of several authors (Ruggiero et al., 2000; Stern et al., 1995) but is consistent with the approach of another group of authors who have also found that the severity of sexual abuse is not directly associated with symptomatology (Bal et al., 2009; Daigneault et al., 2006; Edmond et al., 2006; Guerra & Farkas, 2015). These results support the idea that the negative effects of sexual abuse may be mediated by cognitive and social factors (Alexander, 1992; Finkelhor & Browne, 1985; Spaccarelli, 1994; Wolfe et al., 1989) and highlight the need for more
knowledge about these factors and their role in the process of symptom development in these victims (Banyard, 2003).

The only characteristic of sexual abuse that had a significant relationship with PTSD symptomatology was the degree of the relationship with the aggressor. We expected that the relationship between these two variables would be positive (the stronger the relationship, the more severe the PTSD), but we found a negative relationship (the stronger the relationship, the less severe the PTSD). This unexpected result could be due to one limitation of the study, which is the use of a single question to assess the relationship with the aggressor. Future research should evaluate the relationship with the aggressor in a more complete and profound way (e.g., degree of parentage, affective closeness, frequency of contact).

Despite this limitation, certain theoretical antecedents help us understand this counterintuitive result. One possible explanation, provided by Perrone and Nanni (1997), is that when the relationship between the victim and the aggressor is strong, the sexual abuse is more progressive, and the abuser gradually acquires psychological control over his victim. In such cases, the victim is not fully aware of the abusive relationship and interprets the abuse in a less traumatic way. The emotional damage is associated not with PTSD but with dissociation, the normalization of the abusive experience and the development of personality disorders (Pereda, Gallardo-Pujol, & Jiménez-Padilla, 2011). Future research should attempt to clarify this issue through either adopting a qualitative approach or including possible moderating factors of PTSD in cases of sexual abuse by close relatives.

Regarding the hypothesis that self-efficacy mediates the relationship between the violence of the sexual abuse and symptomatology, the results reveal negative relationships between violence and self-efficacy and between symptoms and self-efficacy; however, this mediation is only marginally significant. It is possible that the mediation was marginally significant due to the small sample size. Future studies should use larger samples to ascertain the relationships between these variables. For now, these results are consistent with those suggested by classical authors who said that people exposed to extreme violence and uncontrollable situations have lower

Table 2
Regression coefficients tested in path analysis (n = 106).

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>β</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TEPT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical commitment</td>
<td>−1.97</td>
<td>−0.06</td>
<td>[−7.50, 3.56]</td>
</tr>
<tr>
<td>Relation</td>
<td>−5.73*</td>
<td>−0.22*</td>
<td>[0.97, 10.49]</td>
</tr>
<tr>
<td>Frequency</td>
<td>2.23</td>
<td>0.12</td>
<td>[−2.16, 6.62]</td>
</tr>
<tr>
<td>Violence</td>
<td>−0.30</td>
<td>−0.02</td>
<td>[−3.05, 2.45]</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>−0.71*</td>
<td>−0.27*</td>
<td>[−1.27, −0.15]</td>
</tr>
<tr>
<td>Family Support</td>
<td>−0.94*</td>
<td>−0.21*</td>
<td>[−1.86, −0.03]</td>
</tr>
<tr>
<td>Cognitive Coping</td>
<td>0.47</td>
<td>0.10</td>
<td>[−0.55, 1.50]</td>
</tr>
<tr>
<td>Behaviour Coping</td>
<td>−0.22</td>
<td>−0.05</td>
<td>[−1.06, 0.62]</td>
</tr>
<tr>
<td>Time since last episode</td>
<td>0.76</td>
<td>0.05</td>
<td>[−2.72, 4.24]</td>
</tr>
<tr>
<td>Other trauma</td>
<td>−1.64</td>
<td>−0.05</td>
<td>[−7.53, 4.24]</td>
</tr>
<tr>
<td>Depression</td>
<td>−0.78</td>
<td>−0.10</td>
<td>[−3.43, 1.87]</td>
</tr>
<tr>
<td>Relation</td>
<td>1.52</td>
<td>0.12</td>
<td>[−0.87, 3.91]</td>
</tr>
<tr>
<td>Frequency</td>
<td>1.13</td>
<td>0.12</td>
<td>[−0.55, 2.81]</td>
</tr>
<tr>
<td>Violence</td>
<td>−0.30</td>
<td>−0.05</td>
<td>[−1.35, 0.75]</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>−0.50**</td>
<td>−0.38**</td>
<td>[−0.77, −0.24]</td>
</tr>
<tr>
<td>Family Support</td>
<td>−0.71**</td>
<td>−0.31**</td>
<td>[−1.17, −0.26]</td>
</tr>
<tr>
<td>Cognitive Coping</td>
<td>−0.03</td>
<td>−0.01</td>
<td>[−0.47, 0.42]</td>
</tr>
<tr>
<td>Behaviour Coping</td>
<td>−0.01</td>
<td>−0.01</td>
<td>[−0.37, 0.34]</td>
</tr>
<tr>
<td>Time since last episode</td>
<td>−0.34</td>
<td>−0.04</td>
<td>[−1.78, 1.10]</td>
</tr>
<tr>
<td>Other trauma</td>
<td>−0.64</td>
<td>−0.04</td>
<td>[−3.48, 2.19]</td>
</tr>
<tr>
<td>Anxiety</td>
<td>−0.37</td>
<td>−0.02</td>
<td>[−4.82, 4.07]</td>
</tr>
<tr>
<td>Physical commitment</td>
<td>−0.37</td>
<td>−0.02</td>
<td>[−4.21, 4.30]</td>
</tr>
<tr>
<td>Relation</td>
<td>0.05</td>
<td>0.00</td>
<td>[−0.20, 0.56]</td>
</tr>
<tr>
<td>Frequency</td>
<td>2.70</td>
<td>0.18</td>
<td>[−2.10, 1.60]</td>
</tr>
<tr>
<td>Violence</td>
<td>−0.25</td>
<td>−0.02</td>
<td>[−1.13, −0.29]</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>−0.71**</td>
<td>−0.33**</td>
<td>[−0.77, −0.24]</td>
</tr>
<tr>
<td>Family Support</td>
<td>−1.30**</td>
<td>−0.34**</td>
<td>[−2.05, −0.55]</td>
</tr>
<tr>
<td>Cognitive Coping</td>
<td>0.55</td>
<td>0.14</td>
<td>[−0.20, 1.30]</td>
</tr>
<tr>
<td>Behaviour Coping</td>
<td>0.04</td>
<td>0.01</td>
<td>[−0.62, 0.71]</td>
</tr>
<tr>
<td>Time since last episode</td>
<td>−2.17</td>
<td>−0.16</td>
<td>[−4.63, 0.29]</td>
</tr>
<tr>
<td>Other trauma</td>
<td>−3.84</td>
<td>−0.14</td>
<td>[−8.00, 0.29]</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>−0.81*</td>
<td>−0.17*</td>
<td>[−1.61, −0.01]</td>
</tr>
<tr>
<td>Violence</td>
<td>0.68**</td>
<td>0.39**</td>
<td>[0.40, 0.96]</td>
</tr>
<tr>
<td>Family Support</td>
<td>0.23**</td>
<td>0.43**</td>
<td>[0.11, 0.35]</td>
</tr>
<tr>
<td>Cognitive Coping</td>
<td>−0.06</td>
<td>−0.07</td>
<td>[−0.25, 0.13]</td>
</tr>
<tr>
<td>Behaviour coping</td>
<td>0.43**</td>
<td>0.35**</td>
<td>[0.22, 0.64]</td>
</tr>
<tr>
<td>Family Support</td>
<td>0.01</td>
<td>0.01</td>
<td>[−0.18, 0.20]</td>
</tr>
</tbody>
</table>

Note: B = unstandardized beta weight; b = standardized beta weight; CI = confidence interval. *p < 0.05; **p < 0.01.
levels of self-efficacy because they believe there is nothing effective that they can do to suppress the stressor. This belief leads them to suppress their active attempts to cope and consequently results in symptoms such as depression (Lazarus & Folkman, 1984; Seligman, 1975).

The results also show that self-efficacy is positively associated with cognitive coping and thus with behavioral coping, but the path analysis does not show the expected relationships between coping and symptoms. This is contrary to the idea that active coping is effective in preventing symptoms (Frydenberg & Lewis, 1993; O'Leary, 2009). However, other authors have reported no relationship between active coping and symptoms in victims of sexual abuse (Bal et al., 2009). In this regard, the role of active coping is not yet entirely clear.

Bonanno and Burton (2013) offered a possible explanation for the lack of a relationship between coping and symptoms. These authors argued that the effectiveness of coping strategies depends on the characteristics of the context in which they are used, such that the effectiveness of a specific coping strategy depends on whether it is used in the appropriate context. Following this point, it is possible to presume that the relationship between coping strategies and symptoms would be different in two opposing contexts: one with high levels and one with low levels of family support. We think that family support acts as a moderator variable because during adolescence, the victim has little control over the effectiveness of his attempts to cope with stressors associated with sexual abuse. At this stage, his parents (or other adults in the family) have the capacity to institute protective measures (e.g., keeping the aggressor away, bringing the adolescent to psychotherapy) needed for the active coping strategies to be effective (Vanistendael & Lecomte, 2002). Then, the emerging hypothesis is that active coping (thinking of solutions and looking for help) will be effective only in the context of adequate family support; thinking of solutions and asking for help will make adolescents feel better only if there are adults willing to help. If they do not receive the support they need, they will experience greater frustration. This hypothesis should be tested in the future; at this moment, the role of active coping is not yet fully understood.

Finally, these results highlight the importance of family support in the psychological adjustment of victims of sexual abuse. In this study, the adolescents who perceived higher family support had higher self-efficacy and thus presented the lowest levels of symptoms, a result that has been reported by previous studies (Bal et al., 2009; Leech, 2011; Spaccarelli & Kim, 1995; Williams & Nelson-Gardell, 2012; Zajac et al., 2015).

4.1. Limitations and future studies

This study provides useful information for understanding the symptoms in adolescent victims of sexual abuse. However, some limitations should be mentioned. First, the cross-sectional design employed does not guarantee the causality of the relationships that we found. While the results are consistent with known theories and previous evidence, we recommend that future researchers make the effort to conduct longitudinal studies, which would provide further evidence of the causal relationships between these variables. Meanwhile, the results of this study should be analyzed carefully because it is possible that the observed relationships have no causal relationship.

Second, even when the tested model included the interactions between many factors, it omitted other important variables (e.g., self-blame). The process of symptom development in victims of sexual abuse is highly complex; therefore, it is imperative to investigate further. Larger samples must be studied to simultaneously test more risk and protective factors. This study could not achieve such an objective, which is a major limitation. Moreover, it is known that victims' symptoms may appear after a long period of time,
so it is important to evaluate variations in symptoms through longitudinal studies (Pereda, 2010).

Third, this study was not conclusive regarding the role of active coping in the process of symptom development. The lack of a relationship between active coping and symptoms may also be due to the low reliability of the coping scale. Future studies should consider this limitation and improve on this aspect.

Finally, the characteristics of the sample, including its small number, the unknown participation rate and the reasons for non-participation, prevent the results from being generalized. In this study, we considered only a clinical sample that was receiving institutional support (starting therapy, cases that are on trial). In future studies, it would be appropriate to include adolescents from the general population without a disclosure of sexual abuse, although such a study would present delicate ethical challenges for researchers.

4.2. Conclusions and clinical implications

Despite the identified limitations, the study provides useful information for understanding the variations in internalizing symptoms between adolescent victims of sexual abuse. We believe that the merit of this study lies in testing a model of relationships in which multiple factors are known to interact. The proposed model is consistent with current theory and can contribute to the development of treatment programs for victims. The protective roles of self-efficacy and the perception of family support were clearly observed. In line with trauma-focused cognitive behavior therapy (Cohen, Mannarino, Kliethermes, & Murray, 2012), we recommend that therapists who work with victims assess these variables to determine the need to strengthen self-efficacy and to work on recognizing figures of support in order to provide an adequate context for abuse victims to use coping strategies effectively.

Our findings support the findings of previous research conducted mainly in Europe and the United States. Perhaps the greatest contribution of these results is in the Latin American context, where related research is lacking (Capella & Gutiérrez, 2014; Guerra & Arredondo, 2017). It is necessary to continuing to analyze the factors involved in the development and improvement of symptoms in victims of child sexual abuse from different cultural contexts.

Acknowledgements

This study was supported by Comisión Nacional de Investigación Científica y Tecnológica de Chile (CONICYT) through a doctoral fellowship granted to the first author (Number 21120168). Thanks to ONG Paicabi and to Corporación de Asistencia Judicial de la Región de Valparaíso.

References


Arendavala, M., & Miranda, C. (2002). Validación de una escala de apoyo social percibido en un grupo de adultos mayores adscritos a un programa de hipertensión de la Región Metropolitana [Validation of a scale of perceived social support in a group of elders under control in a hypertension program in the Metropolitan Region]. Ciencia y Enfermería, 8(1), 49–55. http://dx.doi.org/10.4067/S0707-95532002000100007.


Bustos, P., Rincón, P., & Aedo, J. (2010). Validación preliminar de la Escala Infantil de Síntomas del Trastorno de Estrés Posttraumático (Child PTSD Symptom Scale,


