

CHILD ABUSE AND POSTTRAUMATIC STRESS IN ABUSED ADOLESCENTS: INTERVENING ROLE OF EMOTION REGULATION DIFFICULTIES

¹Afreen Komal and ²Farah Malik, Ph.D.

Institute of Applied Psychology, University of the Punjab, Pakistan

Corresponding Author: afreenkomal17@yahoo.com

ABSTRACT

The present research aimed to explore the association between child abuse and posttrauma stress symptoms and the mediating role of emotion regulation in abused adolescents. A Sample of 330 adolescents, including both boys = 165 and girls = 165 with the age range of 11 to 17 years ($M=14.03$, $SD = 3.76$), was recruited from three centers of Child Protection and Welfare Bureau (CPWB) of Punjab province using a non-probability purposive sampling technique. The Urdu versions of ISPCAN Child Abuse Screening Tool-Child Version (ICAST; Zolotor et al., 2009), Difficulties in Emotion Regulation Scale-Short Form (DERS-SF; Kaufman, Xia, Fosco, Yaptangco, Skidmore, & Crowell, 2016), and Children's Revised Impact of Event Scale (CRIES-13; Horowitz, Wilner., & Alvarez, 1979) were used. Findings showed that child abuse was significantly positively correlated with difficulties in emotion regulation and posttraumatic stress. Similarly, difficulty in emotion regulation was also significantly positively associated with posttraumatic stress. However, mediation indicated increased child abuse tends to increase emotion regulation difficulties. However, increased difficulties in emotion regulation turn into increased posttraumatic stress ($\beta = .18$, $p < .001$). Study findings draw the attention of policymakers and mental health professionals towards early assessment and intervention for abused adolescents.

Keywords: Child abuse, emotion regulation, posttrauma stress, abused adolescents

Introduction

Adolescence is a crucial phase in human development during which detrimental experiences can significantly influence the course of life (Sawyer, Afifi., & Bearinger, 2012). Among such vulnerable adolescent's populations are those affected by childhood abuse and neglect (Peltonen, Ellonen., & Larsen, 2010; Thornberry, Henry., & Ireland, 2010). Child abuse and neglect (CAN), also known as child maltreatment, is characterized as all types of physical abuse, psychological/emotional abuse, sexual abuse, neglect, or negligent treatment that cause actual or probable impairment to the child's welfare, survival, development, or dignity related to a relationship of responsibility, trust or authority (World Health Organization, 2008).

Child abuse/maltreatment is a global psycho-social issue (Cronholm &

Witherspoon, 2016) prevalent in all societies and socioeconomic veins (Stoltenborgh, Bakermans-Kranenburg, van IJzendoorn., & Alink, 2013). Integrating findings from 244 publications (Stoltenborgh, Bakermans-Kranenburg, Alink., & van IJzendoorn, 2015) showed that universally 10-30 % of children suffered from at least one type of child abuse (emotional, sexual, physical abuse, and neglect). Hence it is apparent that childhood maltreatment is an exclusively pervasive and universal problem (Haselgruber, Sölva., & Lueger-Schuster, 2020).

Child abuse is an exceptionally common issue and vigorously linked with acute and long-lasting ramifications for a child's psychological (Cook et al., 2005; Lueger-Schuster et al., 2018) and physical health (Bellis, Lowey, Leckenby, Hughes., & Harrison, 2014; Gilbert et al., 2009). This issue further leads to a range of

mental health problems and tends to be more vulnerable to posttraumatic stress disorder (PTSD) (Chung & Chen, 2017). Extant evidence has shown that child abuse in any form can be hurtful for the child's prosperity and identity (Baer & Martinez, 2006; Éthier, Lemelin., & Lacharité, 2004; Vachon, Krueger, Rogosch., & Cchetti, 2015).

Emotion regulation (ER) has been researched extensively as a vital aspect in understanding the association between childhood maltreatment and children's mental health. ER, is characterized by regulating intense emotional arousal (Villalta, Smith, Hickin., & Stringaris, 2018). Emotion dysregulation or emotion regulation difficulties is associated with several psychological issues that correspond to strong transdiagnostic associates of psychological problems in adolescents (Aldao, Nolen-Hoeksema., & Schweizer, 2010). ER has been found as mediating factor in many studies exploring the relationship between childhood trauma and psychological problems in children. ER difficulties are resulting from childhood abuse lead towards the occurrence and maintenance of PTSD among abused adolescents (Burns, Jackson., & Harding, 2010; Powers et al., 2015; Tull et al., 2007). In line with this notion, mediating role of ER is evident by research literature (Haselgruber, Sölva., & Lueger-Schuster, 2020). Even though previous researches show the link between childhood maltreatment and psychopathology, the potential role of emotion regulation as a mediator between abuse exposure and psychological issues need to be explored further, mainly in the adolescents' population (John, Cisler., & Sigel, 2017; Carpenter & Chung, 2011).

A significant number of adolescents in Pakistani are victimized by child maltreatment, but unfortunately, there is a paucity of evocative research as most of the studies exploring this nuisance are just descriptive, inconclusive (Walayat & Butt, 2017; Yousafzai, 2018). Furthermore, despite being an important factor, the mediating role of emotion regulation between child abuse and posttrauma

psychopathology is a neglected aspect of child abuse literature and a scarcity of evident data about this crucial issue from Pakistan. So, the current study is intended to fill the mentioned literature gaps by getting a comprehensive understanding of independent and interlinked factors involved in the process of psychopathology following various forms of child abuse, along with mediating role of emotion regulation.

Method

Sample

The study sample consisted of 330 adolescents, including both boys = 165 and girls =165 with the age range of 11 to 17 years ($M=14.03$, $SD = 3.76$). The sample was recruited from three centers of Child Protection and Welfare Bureau (CPWB) Lahore using a non-probability purposive sampling technique. Those adolescents were included who have gone through the court proceedings and living in institutes for at least one year. Adolescents who were residents of institutes since childhood were not included. Furthermore, participants with any physical disability or severe medical disease were also excluded from the sample to avoid any confounding factor.

Measures

Urdu versions of all measures were used along with the informed consent and demographic information sheet.

Demographic Information Form

The researcher developed a demographic information form to obtain information about participant's age, gender, family system, birth order. Characteristics of trauma exposure; single time versus multiple times abuse exposure (repeated exposure), exposure to single versus multiple types of abuse (also called complex abuse exposure) and abuse perpetrated by a caregiver/close one versus a stranger.

ISPCAN Child Abuse Screening Tool-Child Version (ICAST).

This tool is developed to assess adolescents with the age range of 11-18 years. Along with 14 demographic questions, this tool has two forms ICAST-CH (home version), containing 38 questions, and ICAST-CI (institute version), having 44 questions regarding abuse experiences at school or work. In the current study home version of the tool was used. ICAST-CH has categories of emotional/psychological abuse (8 items), physical discipline (7 items), physical abuse (9 items), sexual abuse (6 items), and neglect (6 items). Validation results of ICAST-CH showed moderate to high internal consistency (Zolotor et al., 2009). Urdu translation of ICAST-CH by Iftikhar and Malik (2018) was used.

Difficulties in Emotion Regulation Scale-Short Form (DERS-SF)

This scale has 18 items in six categories; difficulties engaging in goal-directed behavior, impulse control difficulties, non-acceptance of emotional responses, lack of emotional awareness, limited access to emotion regulation strategies, lack of emotional clarity. Each item is scored on a 5-point Likert-like scale ranged from "almost never" to "almost always". Scoring can be done by taking sums or averages of items. DERS-SF has shown psychometrically sound values of validity and reliability (Kaufman, Xia, Fosco, Yaptangco, Skidmore, & Crowell, 2016). ***Children's Revised Impact of Event Scale (CRIES-13)***

CRIES has 13 items containing 3 categories of PTSD symptomatology: intrusion (4 items), avoidance (4 items), and arousal (5 items). CRIES-13 has a 4-point scale with the response options: (0 = *Not at all*, 1 = *Rarely*, 3 = *Sometimes*, and 5 = *Often*) how often the participants had experienced a particular symptom over the last two weeks. The scores of symptoms severity range from 0-65. The scales showed satisfactory internal consistency as Cronbach alphas were Avoidance = 0.73; Arousal = 0.60; Intrusion = 0.70; Total = 0.80. scoring can be done by using a cutoff score of ≥ 30 on thirteen items estimating clinical levels of symptoms. This scale is used for classification purposes only, as the CRIES-13 score cannot diagnosing PTSD (Horowitz, Wilner., & Alvarez, 1979). Urdu translated version of CRIES-13 by Komal and Kausar (2015) was used.

Procedure

The research topic got approval from the competent authority of the university before starting the research. For data collection, permission was sought to use and translate assessment tools into the Urdu language from the respective authors. Before data collection, official permission was taken from the respective authorities of CPWB. Informed consent and information sheet were designed to educate the authorities and research participants about the study's rationale and their ethical rights for participation. After providing all relevant information and answering queries, consent for participation was taken from competent authorities, and questionnaires were given to participants.

Results

The data were analyzed in three key steps. In the first step, descriptive statistics of demographic and study variables were computed. In step two, Pearson product-moment correlation analysis was carried out to assess the relationship between child abuse, difficulty in emotion regulation, and

posttraumatic stress. In the last step, structural equation modeling was employed to assess the mediating role of difficulties in emotion regulation between child abuse and posttraumatic stress.

Descriptive Statistics and Reliability Coefficients

The demographic information of the sample contains age, gender, family system, birth order. The age range of participants was 11-17 years ($M=14.15$, $SD = 2.76$). Half of the participants were boys 50%, and half of

them were girls 50%. Almost half of the participants were middle born 48%, whereas 22% were first born while 30% were last born. Approximately 73% of participants were repeatedly exposed to the trauma, while 27 % of them experiences the trauma only once. Whereas 87% o the participants were exposed to multiple types of trauma. In comparison, 13% of them were exposed to only a single type of trauma. At the same time, 31% were abused by a caregiver/close one, while 69% reported that a stranger abused them.

Table 1

Descriptive Statistics and Reliability Analyses for Child Abuse, Difficulties in Emotion Regulation and Post-Traumatic Stress (N=330).

| Variables | | <i>Boys</i> <i>165</i> | <i>Girls</i> <i>165</i> | <i>Ranges</i> | | |
|---|----------|---------------------------|----------------------------|---------------|------------------|----------|
| | <i>K</i> | <i>M(SD)</i> | <i>M(SD)</i> | <i>Actual</i> | <i>Potential</i> | α |
| Child Abuse | 35 | 109.24(15.87) | 110.17(16.89) | 35-140 | 74-131 | .89 |
| Physical Discipline | 7 | 35.14(9.25) | 32.47(9.04) | 7-40 | 20-39 | .78 |
| Neglect | 6 | 31.74(8.45) | 30.25(8.09) | 6-36 | 18-36 | .76 |
| Psychological Abuse | 8 | 27.41(7.44) | 28.44(8.74) | 8-32 | 15-32 | .74 |
| Physical Abuse | 9 | 42.10(12.11) | 35.10(10.01) | 9-46 | 30-46 | .75 |
| Sexual abuse | 5 | 15.35(4.04) | 17.24(4.87) | 5-20 | 10-20 | .77 |
| Difficulties in Emotion Regulation | 18 | 62.02(16.12) | 66.17(19.45) | 28-87 | 18-90 | .81 |
| Non-Acceptance | 3 | 12.41(3.01) | 13.12(3.76) | 6-15 | 3-15 | .70 |
| Goals | 3 | 12.12(3.45) | 12.54(3.14) | 6-15 | 3-15 | .72 |
| Impulse Control | 3 | 11.87(3.44) | 12.32(3.27) | 7-15 | 3-15 | .71 |
| Awareness | 3 | 11.71(2.85) | 12.02(3.01) | 5-15 | 3-15 | .71 |
| Strategies | 3 | 10.20(2.74) | 11.68(2.97) | 4-15 | 3-15 | .72 |
| Clarity | 3 | 10.89(2.85) | 11.72(2.32) | 5-15 | 3-15 | .70 |
| Post-Traumatic Stress | 13 | 48.87(10.41) | 53.11(11.78) | 25-65 | 0-65 | .88 |
| Intrusion | 4 | 17.14(3.85) | 16.10(3.02) | 7-20 | 0-20 | .74 |
| Avoidance | 4 | 16.62(3.14) | 15.87(2.77) | 6-20 | 0-20 | .72 |
| Arousal | 5 | 15.43(3.07) | 15.01(3.54) | 6-20 | 0-25 | .78 |

Note. K = number of items, α = Cronbach's Alpha.

Table 1 showed the descriptive statistics, including mean, standard deviation, and actual and potential ranges of child abuse, difficulties in emotion regulation, and posttraumatic stress. The Cronbach's alpha reliability coefficients indicated excellent internal reliability ranging from .70 to .88.

Table 2

Bivariate Correlation between Child Abuse, Difficulties in Emotion Regulation and Post-Traumatic Stress (N=330).

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 16 | 16 | 17 |
|--|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|------|------|
| 1. Child Abuse | - | .74*** | .71*** | .73*** | .60*** | .64*** | .39** | .08 | .05 | .10 | .02 | .12 | .13 | .41*** | .31* | .29* | .30* |
| 2. Physical Discipline | | - | .62*** | .66*** | .59*** | .69*** | .11 | .09 | .07 | .14 | .12 | .02 | .08 | .09 | .11 | .09 | .10 |
| 3. Neglect | | | - | .63*** | .74*** | .72*** | .19 | .07 | .04 | .08 | .02 | .03 | .04 | .12 | .01 | .04 | .03 |
| 4. Psychological Abuse | | | | - | .77*** | .70*** | .26* | .06 | .05 | .07 | .03 | .09 | .06 | .30* | .04 | .09 | .02 |
| 5. Physical Abuse | | | | | - | .75*** | .39** | .29* | .24* | .26* | .30* | .32* | .23* | .38** | .04 | .05 | .08 |
| 6. Sexual Abuse | | | | | | - | .43*** | .31* | .16 | .08 | .11 | .09 | .13 | .45*** | .23* | .21* | .28* |
| 7. Difficulties in Emotion Regulation | | | | | | | - | .64*** | .57*** | .51*** | .53*** | .49*** | .59*** | .34** | .31* | .27* | .24* |
| 8. Non-Acceptance | | | | | | | | - | .45*** | .43*** | .67*** | .66*** | .56*** | .29* | .22* | .27* | .25* |
| 9. Goals | | | | | | | | | - | .56*** | .53*** | .55*** | .65*** | .26* | .30* | .31* | .24* |

| | | | | | | | | |
|----------------------|---|--------|--------|--------|------|--------|--------|--------|
| 10. Impulse | - | .50*** | .49*** | .59*** | .25* | .27* | .21* | .23* |
| Control | | | | | | | | |
| 11. | - | .59*** | .49*** | .04 | .08 | .07 | .01 | |
| Awareness | | | | | | | | |
| 12. Strategies | | | | .57*** | .03 | .07 | .05 | .03 |
| 13. Clarity | | | | - | .04 | .06 | .02 | .09 |
| 14. | | | | | - | .52*** | .56*** | .45*** |
| Posttraumatic | | | | | | | | |
| Stress | | | | | | | | |
| 15. Intrusion | | | | | | - | .53*** | .57*** |
| 16. | | | | | | | - | .59*** |
| Avoidance | | | | | | | | |
| 17. Arousal | | | | | | | | - |

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

The results of Table 2 showed that child abuse was significantly positively associated with difficulty in emotion regulation and posttraumatic stress, including sub-scales, i.e., (intrusion, avoidance, and arousal). Psychological abuse was significantly positively correlated with difficulty in emotion regulation and posttraumatic stress. Physical abuse (sub-scale of child abuse) was significantly positively associated with difficulty in emotion regulation, including sub-scales, i.e., (non-acceptance, goals, impulse control, awareness, strategies, and clarity) and posttraumatic stress. Sexual abuse (sub-scale of child abuse) was also found to be significantly positively correlated with difficulty in emotion regulation, non-acceptance, and posttraumatic stress, including (intrusion, avoidance, and arousal). Difficulty in emotion regulation, non-acceptance, goals, and impulse control was significantly positively correlated with posttraumatic stress, intrusion, avoidance, and arousal.

Structural Equation Modeling

The mediating role of difficulties in emotion regulation between the relationship of child abuse and posttraumatic stress in adolescents was investigated using the SEM (Structural Equation Modelling) through AMOS (Analysis of Moment Structure) version 25.0.

The model fit indices were indicated for child abuse, difficulties in emotion regulation, and posttraumatic stress. The estimates of absolute model fit was $\chi^2(87) = 256.05, p < .05$. It was observed that the estimates of the absolute model were poor, which indicated that

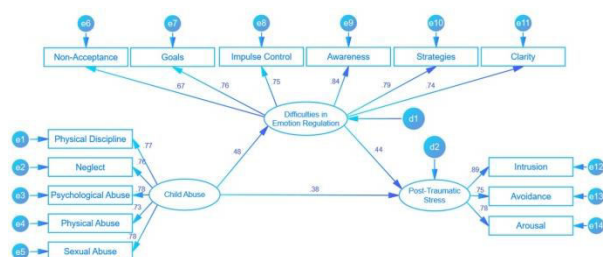
sample variance-covariance and population variance-covariance were not equal.

However, it is evident that the chi-square test does not provide a reliable estimate for the estimation of model fit due to its sensitivity towards the sample size and the number of parameters to be estimated in a model. So, the investigators often recommended a wide range of fit indices to assess the model fit. The fit indices, including GFI (goodness of fit index), CFI (comparative fit index), NFI (normed fit index), RMSEA (root mean square error of approximation), and SRMR (standardized root mean square) were analyzed for the evaluation of the model fit.

Theorists fit (Hair, Celsi, Ortinau., & Bush, 2010; Hu & Bentler, 1999) recommend that χ^2/df ought to be in the middle of 0 and 3, RMSEA and SRMR indices ought to be .08 or lesser. In, compression CFI, NFI, and GFI indices of .90 or higher are considered to be optimal. Since the index of RMSEA and SRMR were .06 and .05, respectively, for the initially tested model. Simultaneously, the indices of GFI, CFI, NNFI for the initial model were .93, .96, and .95, respectively, while χ^2/df for the model was 2.94. So, these indices showed evidence of the best model fit. Hence, the sample variance-covariance and population variance-covariance are invariant.

Figure 1

Mediation model of Child Abuse and Post-Traumatic Stress through Difficulties in Emotion Regulation in Adolescents.



After being done with the model fit, the estimates were analyzed for the direct and indirect effects of child abuse, difficulties in emotion regulation, and posttraumatic stress. However, a bootstrapped sample of 5000 was also calculated for the validation of indirect paths. (Hayes, 2013).

Table 3

Direct Effects of Child Abuse and Post-Traumatic Stress through Difficulties in Emotion Regulation in Adolescents.

| Antecedent | Consequent | | | |
|------------------------------------|------------------------------------|-----|-----------------------|-----|
| | Difficulties in Emotion Regulation | | Post-Traumatic Stress | |
| | Coeff. | SE | Coeff. | SE |
| Child Abuse | .48** | .17 | .38** | .12 |
| Difficulties in Emotion Regulation | | | .44** | .14 |
| R^2 | .19 | | .4 | |

| Antecedent | Consequent | | | |
|------------|------------------------------------|----|-----------------------|----|
| | Difficulties in Emotion Regulation | | Post-Traumatic Stress | |
| | Coeff. | SE | Coeff. | SE |
| | .2 | | .94 | |

Note. Coeff. = standardized regression coefficient,

The findings of direct effect (table 3) showed that child abuse was a significant positive predictor of difficulties in emotion regulation ($\beta = .48$, $p < .001$) and post-traumatic stress ($\beta = .38$, $p < .001$). However, difficulties in emotion regulation were also a significant positive predictor of posttraumatic stress ($\beta = .44$, $p < .001$). The indirect effect also showed that the difficulties in emotion regulation were a significant mediator between child abuse and posttraumatic stress ($\beta = .18$, $p < .001$), which showed that increased child abuse leads to increased difficulties in emotion regulation. However, increased difficulties in emotion regulation turn into increased Posttraumatic Stress.

Discussion

This study intended to explore the link between child abuse and posttrauma stress symptomology and the mediating role of emotional processing between this link among abused adolescents. The results revealed that child abuse was significantly positively associated with posttraumatic stress symptoms. The results are consistent with the previous studies as Barlow, Turow and Gerhart (2017) reported that experiencing traumatic events cause posttraumatic stress disorder in children, especially child abuse, is linked with posttraumatic stress (Cantón- Cortes

& Canton, 2010). Furthermore, Gardner, Thomas and Erskine (2019) reported that all types of childhood maltreatment lead to posttraumatic stress. In previous studies, psychological abuse (Bornefeld-Ettmann et al., 2018; Seng et al., 2013) and sexual abuse (Murphy, Elklit, Hyland., & Shevlin, 2016; Feerick & Snow, 2005; Lilly, London, & Bridgett, 2014; Chang, Kaczurkin, McLean., & Foa, 2018; Mokma, Eshelman, Moore, 2015) are found to be highly correlated with posttraumatic stress symptomatology. Physical abuse was significantly linked with posttraumatic stress in individuals who faced childhood abuse (Ehring et al., 2014; Moore, Gaskin & Indig, 2013). Another study by Stevens and colleagues (2013) supported the results of the present study and stated that child physical, sexual, or psychological abuse is correlated with posttraumatic stress disorder.

Childhood maltreatment was associated with heightened emotional dysregulation (Weissman et al., 2019; Rizeq & McCann, 2019). In the current study, child abuse was significantly positively associated with difficulties in emotional dysregulation. The results are supported by the study of Kuo, Khoury, Metcalfe, Fitzpatrick, and Goodwill (2015), according to which childhood abuse has been consistently correlated with emotional regulation difficulties.

Literature showed that childhood psychological abuse is associated with dysfunctional emotional regulation (Mills, Newman, Cossar., & Murray, 2015; Barlow et al., 2017). Other studies also showed a positive relationship between, exposure to physical abuse (Heleniak, Jennes, Stoep, McCauley., & McLaughlin, 2016; Barlow et al., 2017;

Schulz et al., 2017; Burns, Jackson., & Harding, 2010) and sexual abuse in childhood (Meyer, Robinson, Muse., & Hughes, 2015; Hebert, Langevin., & Oussaid, 2018; Lilly et al., 2014; Chang et al., 2018) with emotion regulation difficulties. Regarding the domain of emotion dysregulation, literature provides evidence for heightened emotional non-acceptance among individuals with moderate-severe sexual, physical, and emotional abuse (Gratz et al., 2007). Moreover, emotion regulation domains (non-acceptance, goals, impulsivity, clarity, strategies and awareness) were also significantly associated with physical abuse (Oshri, Sutton, Warner & Miller, 2015).

Emotion regulation (ER) has been identified as a critical factor in developing and maintaining posttraumatic stress symptoms (Ehring & Ehlers, 2014). In the present study, difficulty in emotion regulation (non-acceptance, goals, and impulse control) was significantly positively correlated with posttraumatic stress (intrusion, avoidance, and arousal) in victims of childhood abuse. In previous studies, it was statistically proven that emotion regulation difficulties are highly associated with posttraumatic stress (Seligowski, Lee, Bardeen., & Orcutt, 2014; McLean & Foa, 2017; Bardeen, Kumpula., & Orcutt, 2013). In previous literature, it is also mentioned that emotion regulation difficulties are highly correlated with PTSD (intrusion, avoidance and arousal) in victims of childhood abuse (Sloan, 2003; Tull, Barrett, McMillan., & Roemar, 2007; Doolan, Bryant, Liddell., & Nickerson, 2017). Moreover, the study of Weiss, Contractor, Raudales, Greene and Short (2020) explained that posttraumatic stress (intrusion, avoidance

and arousal) is positively correlated with emotion dysregulation dimensions (non-acceptance, impulse control, goal-directed behavior). In another study, non-acceptance and intrusion were highly correlated with each other in the posttraumatic phase of any trauma (Macia, Moschetto, Wickham, Brown., & Waelde, 2020).

The link between emotion regulation difficulties, childhood abuse, and posttraumatic stress, is well established in the research literature (Stevens, Gerhart, Goldsmith., & Heath, 2013; Stikkelbroek, Bodden, Kleinjan., & Reijnders, 2016). Furthermore, a body of research literature explained the mediating role of emotional regulation between child abuse and mental health issues (Cloitre, Khan., & Mackintosh, 2019; Langevin, Hebert., & Cossette, 2015; Hopfinger, Berking, Bockting., & Ebert, 2016; Mills et al., 2015).

Moreover, Barlow et al., (2017) reported that ER difficulties fully explained the association between abuse exposure and PTSD symptoms. A study by Gratz et al., (2007) reported that emotional non-acceptance mediates the relationship between childhood emotional abuse and avoidance. The study of Burns et al., (2010). also explained that emotion dysregulation partially explained the association between abuse (physical and emotional) and posttraumatic stress symptoms. Previous studies also showed that emotion regulation (ER) difficulties and physical abuse had influenced the relation between trauma exposure and consequent posttraumatic symptoms (Cromer & Smyth, 2010).

Limitations

The current study concentrated on middle and late adolescence, a crucial developmental period for emergent emotion regulation abilities and psychopathology after facing trauma. It could be vital to evaluate whether similar findings would be found for the early period of adolescence. Moreover, in this study, subjective measures were used, which are more prone to personal bias. In future researches, objective measures of study variables should be used to examine this relationship. Likewise, caregiver-reporting could not be obtained, which could give a more thorough assessment of psychopathology.

Strengths

The greatest strength of the present research is its distinctive sample, as this study assessed psychological issues of adolescent individuals who were exposed to high severity of child abuse. Before this study, in Pakistan, the relationship between child abuse and posttraumatic symptoms and, importantly, emotion regulation as a mediator was not examined rigorously in the present sample of highly impaired adolescents. The present study contributed to the existing literature by suggesting that children with a history of childhood maltreatment are at high risk for mental health problems, and they need professional psychological help as early as possible.

Implications

The findings of the current study hold on important implications regarding early assessment and therapeutic services for abused victims. Additionally, findings bring attention towards a trauma-informed public health approach to well-organized screening, prevention, and early intervention for abuse in child service

systems. Furthermore, the results emphasize the need for trauma research extending beyond descriptive nature to abuse-specific or cumulative-risk approaches that provide more comprehensive descriptions of childhood abuse.

References

- Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review*, 30, 217-237.
- Baer, J. C., & Martinez, C. D. (2006). Child maltreatment and insecure attachment: A meta-analysis. *Journal of Reproductive and Infant Psychology*, 24(3), 187-197.
- Bardeen, J. R., Kumpula, M. J., & Orcutt, H. K. (2013). Emotion regulation difficulties as a prospective predictor of posttraumatic stress symptoms following a mass shooting. *Journal of Anxiety Disorders*, 27(2), 188-196.
- Barlow, M. R., Turow, R. E. G., & Gerhart, J. (2017). Trauma appraisals, emotion regulation difficulties, and self-compassion predict posttraumatic stress symptoms following childhood abuse. *Child Abuse & Neglect*, 65, 37-47.
- Bellis, M. A., Lowey, H., Leckenby, N., Hughes, K., & Harrison, D. (2014). Adverse childhood experiences: retrospective study to determine their impact on adult health behaviours and health outcomes in a UK population. *Journal of Public Health*, 36(1), 81-91.
- Bornefeld-Ettmann, P., Steil, R., Lieberz, K. A., Bohus, M., Rausch, S., Herzog, J., ... & Müller-Engelmann, M. (2018). Sexual functioning after childhood abuse: The influence of post-traumatic stress disorder and trauma exposure. *The Journal of Sexual Medicine*, 15(4), 529-538.
- Burns, E. E., Jackson, J. L., & Harding, H. G. (2010). Child maltreatment, emotion regulation, and posttraumatic stress: The impact of emotional abuse. *Journal of Aggression, Maltreatment & Trauma*, 19(8), 801-819.
- Cantón-Cortés, D., & Cantón, J. (2010). Coping with child sexual abuse among college students and post-traumatic stress disorder: The role of continuity of abuse and relationship with the perpetrator. *Child Abuse & Neglect*, 34(7), 496-506.
- Canty-Mitchell, J. & Zimet, G.D. (2000). Psychometric properties of the Multidimensional Scale of Perceived Social Support in urban adolescents. *American Journal of Community Psychology*, 28, 391-400.
- Carpenter, L., & Chung, M. C. (2011). Childhood trauma in obsessive compulsive disorder: the roles of alexithymia and attachment. *Psychology and Psychotherapy: Theory, Research and Practice*, 84(4), 367-388.
- Chang, C., Kaczurkin, A. N., McLean, C. P., & Foa, E. B. (2018). Emotion regulation is associated with PTSD and depression among female adolescent survivors of childhood

-
- sexual abuse. *Psychological Trauma: Theory, Research, Practice, and Policy*, 10(3), 319.
- Chung, M. C., & Chen, Z. S. (2017). Child abuse and psychiatric co-morbidity among Chinese adolescents: emotional processing as mediator and PTSD from past trauma as moderator. *Child Psychiatry & Human Development*, 48(4), 610-618.
- Cloitre, M., Khan, C., Mackintosh, M. A., Garvert, D. W., Henn-Haase, C. M., Falvey, E. C., & Saito, J. (2019). Emotion regulation mediates the relationship between ACES and physical and mental health. *Psychological Trauma: Theory, Research, Practice, and Policy*, 11(1), 82.
- Cook, A., Spinazzola, J., Ford, J., Lanktree, C., Blaustein, M., Cloitre, M., ... van der Kolk, B. (2005). Complex trauma in children and adolescents. *Psychiatric Annals*, 35(5), 390-398.
- Cromer, L. D., & Smyth, J. M. (2010). Making meaning of trauma: Trauma exposure doesn't tell the whole story. *Journal of Contemporary Psychotherapy*, 40(2), 65-72.
- Cronholm, P. F., & Witherspoon, M. N. (2016). Child abuse and neglect. In *Essential Evidence*. Retrieved from <http://www.essentialevidenceplus.com>
- Doolan, E. L., Bryant, R. A., Liddell, B. J., & Nickerson, A. (2017). The conceptualization of emotion regulation difficulties, and its association with posttraumatic stress symptoms in traumatized refugees. *Journal of Anxiety Disorders*, 50, 7-14.
- Ehring, T., & Ehlers, A. (2014). Does rumination mediate the relationship between emotion regulation ability and posttraumatic stress disorder?. *European Journal of Psychotraumatology*, 5(1), 23547.
- Ethier, L. S., Lemelin, J. P., & Lacharité, C. (2004). A longitudinal study of the effects of chronic maltreatment on children's behavioral and emotional problems. *Child Abuse & Neglect*, 28(12), 1265-1278.
- Feerick, M. M., & Snow, K. L. (2005). The relationships between childhood sexual abuse, social anxiety, and symptoms of posttraumatic stress disorder in women. *Journal of Family Violence*, 20(6), 409-419.
- Gardner, M. J., Thomas, H. J., & Erskine, H. E. (2019). The association between five forms of child maltreatment and depressive and anxiety disorders: A systematic review and meta-analysis. *Child Abuse & Neglect*, 96, 104082.
- Gilbert, R., Widom, C. S., Browne, K., Fergusson, D., Webb, E., & Janson, S. (2009). Burden and consequences of child maltreatment in high-income

-
- countries. *The Lancet*, 373(9657), 68-81.
- Gratz, K. L., Bornova, M. A., Delany-Brumsey, A., Nick, B., & Lejuez, C. W. (2007). A laboratory-based study of the relationship between childhood abuse and experiential avoidance among inner-city substance users: The role of emotional nonacceptance. *Behavior Therapy*, 38(3), 256-268.
- Hair, J. F., Celsi, M., Ortinau, D. J., & Bush, R. P. (2010). *Essentials of marketing research*. New York, NY: McGraw-Hill/Irwin.
- Haselgruber, A., Sölva, K., & Lueger-Schuster, B. (2020). Perspective matters: Differences between child- and caregiver-reports of emotion regulation mediating the relationship between cumulative childhood trauma and mental health problems in foster children. *Child Abuse & Neglect*, 107, 104558.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: The Guilford Press
- Hébert, M., Langevin, R., & Oussaïd, E. (2018). Cumulative childhood trauma, emotion regulation, dissociation, and behavior problems in school-aged sexual abuse victims. *Journal of Affective Disorders*, 225, 306-312.
- Heleniak, C., Jenness, J. L., Vander Stoep, A., McCauley, E., & McLaughlin, K. A. (2016). Childhood maltreatment exposure and disruptions in emotion regulation: A transdiagnostic pathway to adolescent internalizing and externalizing psychopathology. *Cognitive Therapy and Research*, 40(3), 394-415.
- Hopfinger, L., Berking, M., Bockting, C. L., & Ebert, D. D. (2016). Emotion regulation mediates the effect of childhood trauma on depression. *Journal of Affective Disorders*, 198, 189-197.
- Horowitz, M., Wilner, N., & Alvarez, W. (1979). Impact of Event Scale: A measure of subjective stress. *Psychosomatic Medicine*, 41(3), 209-218.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1-55.
- Iftikhar, R. & Malik, F. (2017). *Interplay of emotional intelligence emotional behavioral problems and STROOP interference process in abused children*. (Unpublished doctoral dissertation). Government College University, Lahore.
- John, S. G., Cisler, J. M., & Sigel, B. A. (2017). Emotion regulation mediates the relationship between a history of child abuse and current PTSD/depression severity in

- adolescent females. *Journal of Family Violence*, 32(6), 565-575.
- Kaufman, E. A., Xia, M., Fosco, G., Yaptangco, M., Skidmore, C. R., & Crowell, S. E. (2016). The Difficulties in Emotion Regulation Scale Short Form (DERS-SF): Validation and replication in adolescent and adult samples. *Journal of Psychopathology and Behavioral Assessment*, 38(3), 443-455.
- Komal, A. & Kausar, R. (2015). *Psychological implications and therapeutic implications of Teaching Recovery Techniques (TRT) in trauma affected adolescents*. (Unpublished master's thesis). University of the Punjab, Lahore.
- Kuo, J. R., Khoury, J. E., Metcalfe, R., Fitzpatrick, S., & Goodwill, A. (2015). An examination of the relationship between childhood emotional abuse and borderline personality disorder features: The role of difficulties with emotion regulation. *Child Abuse & Neglect*, 39, 147-155.
- Langevin, R., Hébert, M., & Cossette, L. (2015). Emotion regulation as a mediator of the relation between sexual abuse and behavior problems in preschoolers. *Child Abuse & Neglect*, 46, 16-26.
- Lilly, M. M., London, M. J., & Bridgett, D. J. (2014). Using SEM to examine emotion regulation and revictimization in predicting PTSD symptoms among childhood abuse survivors. *Psychological Trauma: Theory, Research, Practice, and Policy*, 6(6), 644.
- Lueger-Schuster, B., Knefel, M., Glück, T. M., Jagsch, R., Kantor, V., & Weindl, D. (2018). Child abuse and neglect in institutional settings, cumulative lifetime traumatization, and psychopathological long-term correlates in adult survivors: The Vienna Institutional Abuse Study. *Child Abuse & Neglect*, 76, 488-501.
- Macia, K. S., Moschetto, J. M., Wickham, R. E., Brown, L. M., & Waelde, L. C. (2020). Cumulative trauma exposure and chronic homelessness among veterans: The roles of responses to intrusions and emotion regulation. *Journal of Traumatic Stress*, 33(6), 1017-1028.
- McKinnon, A., Smith, P., Bryant, R., Salmon, K., Yule, W., Dalgleish, T., Dixon, C., Nixon, R.D.V. & Meiser-Stedman, R. (2016). An update on the clinical utility of the Children's Posttraumatic Cognitions Inventory. *Journal of Traumatic Stress*, 29 (3).253-258
- McLean, C. P., & Foa, E. B. (2017). Emotions and emotion regulation in posttraumatic stress disorder. *Current Opinion in Psychology*, 14, 72-77.
- Meyer, D., Cohn, A., Robinson, B., Muse, F., & Hughes, R. (2017). Persistent complications of child sexual

-
- abuse: Sexually compulsive behaviors, attachment, and emotions. *Journal of Child Sexual Abuse*, 26(2), 140-157.
- Mills, P., Newman, E. F., Cossar, J., & Murray, G. (2015). Emotional maltreatment and disordered eating in adolescents: Testing the mediating role of emotion regulation. *Child Abuse & Neglect*, 39, 156-166.
- Mokma, T. R., Eshelman, L. R., & Messman-Moore, T. L. (2016). Contributions of child sexual abuse, self-blame, posttraumatic stress symptoms, and alcohol use to women's risk for forcible and substance-facilitated sexual assault. *Journal of Child Sexual Abuse*, 25(4), 428-448.
- Moore, E., Gaskin, C., & Indig, D. (2013). Childhood maltreatment and post-traumatic stress disorder among incarcerated young offenders. *Child Abuse & Neglect*, 37(10), 861-870.
- Muehlenkamp, J. J., Kerr, P. L., Bradley, A. R., & Larsen, M. A. (2010). Abuse subtypes and nonsuicidal self-injury: Preliminary evidence of complex emotion regulation patterns. *The Journal of Nervous and Mental Disease*, 198(4), 258-263.
- Murphy, S., Elklit, A., Hyland, P., & Shevlin, M. (2016). Insecure attachment orientations and posttraumatic stress in a female treatment-seeking sample of survivors of childhood sexual abuse: A cross-lagged panel study. *Traumatology*, 22(1), 48.
- Oshri, A., Sutton, T. E., Clay-Warner, J., & Miller, J. D. (2015). Child maltreatment types and risk behaviors: Associations with attachment style and emotion regulation dimensions. *Personality and Individual Differences*, 73, 127-133.
- Peltonen, K., Ellonen, N., Larsen, H. B., & Helweg-Larsen, K. (2010). Parental violence and adolescent mental health. *European Child & Adolescent Psychiatry*, 19(11), 813-822.
- Powers, A., Cross, D., Fani, N., & Bradley, B. (2015). PTSD, emotion dysregulation, and dissociative symptoms in a highly traumatized sample. *Journal of Psychiatric Research*, 61, 174-179.
- Rizeq, J., & McCann, D. (2019). Trauma and affective forecasting: the mediating effect of emotion dysregulation on predictions of negative affect. *Personality and Individual Differences*, 147, 172-176.
- Sawyer, S. M., Afifi, R. A., Bearinger, L. H., Blakemore, S. J., Dick, B., Ezech, A. C., & Patton, G. C. (2012). Adolescence: A foundation for future health. *Lancet (London, England)*, 379(9826), 1630-1640. [https://doi.org/10.1016/S0140-6736\(12\)60072-5](https://doi.org/10.1016/S0140-6736(12)60072-5)

-
- Schulz, P., Beblo, T., Ribbert, H., Kater, L., Spannhorst, S., Driessen, M., & Hennig-Fast, K. (2017). How is childhood emotional abuse related to major depression in adulthood? The role of personality and emotion acceptance. *Child Abuse & Neglect*, 72, 98-109.
- Seligowski, A. V., Lee, D. J., Bardeen, J. R., & Orcutt, H. K. (2015). Emotion regulation and posttraumatic stress symptoms: A meta-analysis. *Cognitive Behaviour Therapy*, 44(2), 87-102.
- Seng, J. S., Sperlich, M., Low, L. K., Ronis, D. L., Muzik, M., & Liberzon, I. (2013). Childhood abuse history, posttraumatic stress disorder, postpartum mental health, and bonding: a prospective cohort study. *Journal of Midwifery & Women's Health*, 58(1), 57-68.
- Sloan, R. E., & McMillan, J. (2003). Developing mentoring skills for general practitioners using a simulated doctor. *Medical Education*, 37(11), 1044-1045.
- Stevens, N. R., Gerhart, J., Goldsmith, R. E., Heath, N. M., Chesney, S. A., & Hobfoll, S. E. (2013). Emotion regulation difficulties, low social support, and interpersonal violence mediate the link between childhood abuse and posttraumatic stress symptoms. *Behavior Therapy*, 44(1), 152-161.
- Stikkelbroek, Y., Bodden, D. H., Kleinjan, M., Reijnders, M., & van Baar, A. L. (2016). Adolescent depression and negative life events, the mediating role of cognitive emotion regulation. *PloS One*, 11(8), e0161062.
- Stoltenborgh, M., Bakermans-Kranenburg, M. J., & van IJzendoorn, M. H. (2013). The neglect of child neglect: A meta-analytic review of the prevalence of neglect. *Social Psychiatry and Psychiatric Epidemiology: The International Journal for Research in Social and Genetic Epidemiology and Mental Health Services*, 48(3), 345-355.
- Stoltenborgh, M., Bakermans-Kranenburg, M. J., Alink, L. R., & van IJzendoorn, M. H. (2015). The prevalence of child maltreatment across the globe: Review of a series of meta-analyses. *Child Abuse Review*, 24(1), 37-50.
- Thornberry, T. P., Henry, K. L., Ireland, T. O., & Smith, C. A. (2010). The causal impact of childhood-limited maltreatment and adolescent maltreatment on early adult adjustment. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, 46(4), 359-365.
- Tull, M. T., Barrett, H. M., McMillan, E. S., & Roemer, L. (2007). A preliminary investigation of the relationship between emotion regulation difficulties and posttraumatic stress symptoms. *Behavior Therapy*, 38(3), 303-313.

- Vachon, D. D., Krueger, R. F., Rogosch, F. A., & Cicchetti, D. (2015). Assessment of the harmful psychiatric and behavioral effects of different forms of child maltreatment. *JAMA psychiatry*, 72(11), 1135-1142.
- Vallalta, L., Smith, P., Hickin, N., & Stringaris, A. (2018). Emotion regulation difficulties in traumatized youth: A meta-analysis and conceptual review. *European Child & Adolescent Psychiatry*, 27(4), 527-544.
- Walayat, S. & Butt, M. (2017). Parental acceptance-rejection, childhood trauma, emotion regulation, and psychological adjustment as the risk factors of psychopathic tendencies in adolescents of Pakistan. *International Journal of Business and Social Research*, 7(5), 9-24.
- Weiss, N. H., Contractor, A. A., Raudales, A. M., Greene, T., & Short, N. A. (2020). Extending our understanding of the association between posttraumatic stress disorder and positive emotion dysregulation: A network analysis approach. *Journal of Anxiety Disorders*, 71, 102198.
- Weissman, D. G., Bitran, D., Miller, A. B., Schaefer, J. D., Sheridan, M. A., & McLaughlin, K. A. (2019). Difficulties with emotion regulation as a transdiagnostic mechanism linking child maltreatment with the emergence of psychopathology. *Development and Psychopathology*, 31(3), 899-915.
- World Health Organization: 2008. Child maltreatment. Available at: http://www.who.int/topics/child_abuse/en. Access date: Dec 02, 2012.
- Yousafzai, A. W. (2018). Child abuse: Are we doing enough to prevent it?. *Khyber Med Univ J*, 10(1), 1-2.
- Zimet, G.D., Dahlem, N.W., Zimet, S.G. & Farley, G.K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment*, 52, 30-41.
- Zolotor, A. J., Runyan, D. K., Dunne, M. P., Jain, D., Péturs, H. R., Ramirez, C., ... & Isaeva, O. (2009). ISPCAN Child Abuse Screening Tool Children's Version (ICAST-C): Instrument development and multi-national pilot testing. *Child Abuse & Neglect*, 33(11), 833-841.