



INSTITUTO UNIVERSITÁRIO EGAS MONIZ

MESTRADO EM PSICOLOGIA FORENSE E CRIMINAL

**POSITIVE EXPERIENCES AND VICTIMIZATION IN
CHILDHOOD AND YOUTH: RELATIONSHIP WITH EMPATHY
IN INMATES AND IN THE NORMATIVE POPULATION**

Trabalho submetido por
Renata Sofia Outeiro Guarda
para a obtenção do grau de Mestre em Psicologia Forense e Criminal

novembro de 2020



INSTITUTO UNIVERSITÁRIO EGAS MONIZ

MESTRADO EM PSICOLOGIA FORENSE E CRIMINAL

**POSITIVE EXPERIENCES AND VICTIMIZATION IN
CHILDHOOD AND YOUTH: RELATIONSHIP WITH EMPATHY
IN INMATES AND IN THE NORMATIVE POPULATION**

Trabalho submetido por
Renata Sofia Outeiro Guarda
para a obtenção do grau de **Mestre** em Psicologia Forense e Criminal

Trabalho orientado por
Prof. Doutora Telma Catarina Almeida

novembro de 2020

Agradecimentos

Esta dissertação marca o fim de uma etapa muito importante na minha vida, que só foi possível com o contributo de várias pessoas.

Quero agradecer à Professora Doutora Telma Almeida, a minha orientadora, pelo apoio incondicional, nunca descurando do rigor e exigência. Quero também agradecer pela total disponibilidade e pelos conhecimentos e ensinamentos que me passou desde o início da minha licenciatura até ao atual momento.

Aos meus amigos, não falando de ninguém em particular, agradeço a preocupação e a ajuda disponibilizada ao longo destes anos.

Aos meus pais, que me transmitiram todos os valores que tenho e que me permitiram lutar pelos meus sonhos. As palavras não chegam para dizer o quanto são importantes e como a vossa ajuda com o Guilherme foi (e continuará a ser) preciosa.

Ao Nuno, meu companheiro de vida há cinco anos, por todo o amor e paciência ao longo desta jornada. Pela constante preocupação e pelo apoio mesmo nos momentos mais difíceis em que a vontade de desistir era muita. Obrigada pela tua dedicação e por toda a atenção que nos dás.

Ao Guilherme, o meu filho, que nasceu a meio desta etapa, o meu mais sincero obrigada. Obrigada por me teres tornado no que sou hoje e por, mesmo sem saberes, nunca me teres deixado desistir. É a ti que dedico este trabalho!

“Só é possível ensinar uma criança a amar, amando-a.”

Johann Wolfgang von Goethe

Resumo

Enquadramento: As experiências positivas na infância ajudam a desenvolver resiliência e a suportar melhor experiências adversas ao longo da vida. O trauma infantil geralmente está associado aos vários tipos de maus tratos que estão associados à baixa empatia na idade adulta. Indivíduos com baixa empatia tendem a ser mais agressivos, violentos e conflituosos com os outros. **Objetivos:** Adaptar o BCEs à população portuguesa. Analisar a relação entre experiências positivas na infância e o trauma na infância. Verificar a relação entre experiências positivas na infância, o trauma na infância e a empatia na idade adulta comparando população normativa e reclusos. **Participantes:** O estudo consiste em duas amostras: uma com 1886 adultos portugueses (1475 mulheres e 411 homens) entre 18 e 91 anos ($M = 36.36$, $DP = 13.66$); e outra com 244, onde 123 (100 mulheres e 23 homens) entre 18 e 67 anos ($M = 34.28$, $DP = 11.902$) anos pertencem à população normativa e 119 são reclusos do sexo masculino entre 18 e 73 anos ($M = 36.97$, $DP = 11.090$). **Método:** A população normativa respondeu a um protocolo *online* e a população reclusa respondeu a um protocolo em papel. O protocolo era constituído por: questionário sociodemográfico, Escala de Experiências Benevolentes na Infância (BCEs), Questionário de Trauma Infantil (CTQ) e Índice de Reatividade Interpessoal (IRI). **Resultados:** Os resultados mostram que vivenciar poucas experiências positivas na infância está relacionado com a experiência de mais traumas na infância e/ ou juventude. As experiências positivas na infância e o trauma infantil predizem a empatia nos reclusos. **Conclusão:** O BCEs é um bom instrumento para avaliar a presença de experiências positivas na infância e que o trauma infantil está presente em ambas as amostras. As experiências positivas na infância e o trauma infantil predizem a empatia na vida adulta.

Palavras-chave: Experiências positivas na infância, trauma infantil, empatia

Positive experiences and victimization in childhood and youth: Relationship with empathy in inmates and in the normative population

Abstract

Background: Positive childhood experiences help to develop resilience and better support adverse experiences throughout life. Childhood trauma is usually associated with the various types of abuse that are associated with low empathy in adulthood. People with low empathy tend to be more aggressive, violent, and conflicted with others. **Objectives:** Adapt the BCEs to the Portuguese population. To analyze the relationship between positive childhood experiences and childhood trauma. To verify the relationship between positive childhood experiences, childhood trauma, and empathy in adulthood by comparing the normative population and prisoners. **Participants:** The study consists of two samples: one with 1886 Portuguese adults (1475 women and 411 men) between 18 and 91 years old ($M = 36.36$, $SD = 13.66$); and another with 244, where 123 (100 women and 23 men) between 18 and 67 years old ($M = 34.28$, $SD = 11.902$) years belong to the normative population and 119 are male prisoners between 18 and 73 years old ($M = 36.97$, $SD = 11.090$). **Method:** The normative population responded to an online protocol and the prison population responded to a paper protocol. The protocol consisted of a sociodemographic questionnaire, Scale of Benevolent Childhood Experiences (BCEs), Child Trauma Questionnaire (CTQ), and Interpersonal Reactivity Index (IRI). **Results:** The results show that having a few positive experiences in childhood is related to the experience of more trauma in childhood and/or youth. Positive childhood experiences and infantile trauma predict empathy for prisoners. **Conclusion:** The BCEs are a good instrument to assess the presence of positive experiences in childhood and that childhood trauma is present in both samples. Positive childhood experiences and childhood trauma predicts empathy in adulthood.

Keywords: Benevolent childhood experiences, childhood trauma, empathy

Positive experiences and victimization in childhood and youth: Relationship with empathy in inmates and in the normative population

Index

Resumo	1
Abstract	3
Index of Tables.....	7
Positive Experiences and Victimization in Childhood and Youth: Relationship with Empathy in Inmates and in the Normative Population	9
Introduction	9
Objectives	11
Thesis structure	12
Method.....	12
Sample	12
Measures	13
Procedure	14
Data Analysis.....	15
References.....	17
Article 1	23
The Portuguese Version of the Benevolent Childhood Experiences Scale.....	23
Resumo	23
Abstract	25
Introduction	27
Method.....	30
Sample	30
Measures	30
Procedure	31
Data Analysis.....	31
Results.....	32
Descriptive analysis	32
Construct Validity.....	32
Discriminant validity	32
Internal consistency	33
Predictive Validity	33
Cluster Analysis of BCEs and CTQ	35
Discussion	36
Limitations	39
Conclusion.....	39

References.....	41
Attachments A	47
Article 2	63
Positive Experiences and Victimization in Youth: Relationship with Empathy in Inmates and in the Normative Population	63
Resumo	63
Abstract	65
Introduction	67
Method.....	69
Sample	69
Measures	70
Procedure	71
Data Analysis.....	71
Results.....	72
Descriptive Statistics.....	72
Correlation Analysis	72
Group Comparison Analysis.....	73
Predictive Validity	74
Discussion	75
Limitations	77
Conclusion	77
References.....	79
Attachments B.....	85
Conclusion	91
Limitations	91
Implications for Practice	92
References.....	93

Index of Tables

Article 1 - The Portuguese Version of the Benevolent Childhood Experiences Scale

Table 1. *BCEs items and frequencies*

Table 2. *Correlations between the BCEs scale and CTQ scale*

Table 3. *Means, Standard Deviations, and One-Way Analyses of BCEs*

Table 4. *Binary Logistics Regressions for Trauma in the past three years and Victimization in the past three years (Total BCE and Total CTQ)*

Table 5. *Binary Logistics Regressions for Trauma in the past three years and Victimization in the past three years (Total BCE and CTQ subscales) (n = 1886)*

Table 6. *Descriptive Statistics for the Clusters*

Article 2 - Positive Experiences and Victimization in Youth: Relationship with Empathy in Inmates and the Normative Population

Table 1. *Correlations between the BCE scale, CTQ scale, and the IRI scale on normative population*

Table 2. *Correlations between the BCE scale, CTQ scale, and the IRI scale on inmates*

Positive experiences and victimization in childhood and youth: Relationship with empathy in inmates and in the normative population

Positive Experiences and Victimization in Childhood and Youth: Relationship with Empathy in Inmates and in the Normative Population

Introduction

Everything a child learns during his childhood influences his behavioral patterns in adult life (Bastos, Guerreiro, Lees, Warner & Silveira-Moriyama, 2015). As the child grows up, he interacts and relates to people around it, whether family, friends, at school, or in the rest of the community. These interactions provide information about the rules and rules of operation for each of the environments mentioned. This allows the child to learn what is and what is not allowed to do in each of them (Oliveira-Formosinho, 1996). Thus, the relationships established in the first years of life will influence the way the child behaves and relates in different environments (Katz, 1996). In this way, bonds with primary caregivers, relationships with other family members, as well as with colleagues and teachers, and early social experiences are crucial for developing healthy relationships (Masten, 2006). Positive emotions have a positive impact on the quality of interpersonal relationships, health, optimism, confidence, and self-efficacy (Lyubomirsky, King & Diener, 2005). Positive relational experiences play a fundamental role in early life adversities, such as abuse and exposure to violence (Masten, 2014). Gilbert et al. (2009) reported that victims of abuse are more likely to develop physical, mental, and behavioral problems. However, not all childhood abuse victims experience physical, mental, or behavioral problems. This may be due to the presence of positive experiences that contribute to a more adjusted development (Flores, Cicchetti, & Rogosch, 2005).

Childhood trauma is one of the public health concerns regarding childhood and adolescence (Dugal, Bigras, Godbut, & Bélanger, 2016). In 2019, in Portugal, 43796 situations of child abuse were reported, 4743 more than in the previous year. These mistreatments include domestic violence, neglect, physical and psychological abuse, and sexual abuse (Child and Youth Protection Commission, 2019). Childhood trauma can take two forms, neglect and abuse (Briere, 2002). Neglect refers to the inability, or refusal, of caregivers to provide essential care for a child's development and includes behaviors of physical or emotional neglect. Abuses involve violent behaviors that are directly and intentionally perpetrated on children or young people, such as physical,

psychological, emotional, and sexual abuse (Leeb, Paulozzi, Melanson, Simon, & Arias, 2008; Shcilling & Christian 2014). Exposure to childhood

trauma leads to consequences that can last throughout life (Kessler, 2010) and affects several areas such as physical and mental health, interpersonal functioning, and adaptation to school and social environments (Campbell, Roberts, Synder, Papp, Strambler, & Crusto, 2016). Trauma further increases the likelihood of these young people coming to exhibit aggressive behavior, which can evolve into a delinquent life (Bandura, Ross & Ross 1961; Fox, Perez, Cass, Baglivio, & Epps, 2015). Studies show that the experience of adverse experiences (Quas Dickerson, Matthew, Harron, & Quas, 2017) and different types of childhood abuse (Dargis, Newman, & Koenigs 2016), are associated with low empathy. Despite their implications, some authors defend childhood trauma can play a positive role in empathic capacity in adulthood because those who go through a traumatic event can more easily recognize and respond to others' emotions (Brockhouse, Msetfi, Cohen & Joseph, 2011; Greenberg, Baron-Cohen, Rosenberg, Fonagy, & Rentfrow, 2018).

Empathy is a strong predictor of positive social conduct (Garaigorbidil & Maganto, 2011). This refers to the ability to recognize the feelings of another person through a process of inner imitation, thus implying some phenomena such as feeling and knowing what the other person is feeling and responding to the same person's experience (Baron-Cohen & Wheelwright, 2004; Decety & Jackson, 2004). Empathy includes two concepts: the cognitive and the emotional (Bohart, Elliott, Greenberg, & Watson, 2002). Cognitive empathy is related to the process of adopting perspective, which allows recognizing the feelings of others but does not imply emotional activation, dealing only with information processing (Soto & Levenson, 2009). Emotional empathy is about understanding what the other feels and experiencing that same feeling (Preston & Waal, 2002). Davis (1983), in addition to dividing empathy into these two concepts, also divided them into four components: taking perspective, which involves understanding the other's thoughts; the empathic concern that aims to experience feelings of compassion and concern for the other; the personal discomfort that is a feeling of anxiety before an event unpleasant with the other; and fantasy, which is the tendency to identify with fictional characters. In this way, empathy has effects in the strengthening of interpersonal relationships and the promotion of inhibition of aggressive behaviors (Jolliffe & Farigton, 2011). The absence of empathy leads individuals to act more freely without thinking about the consequences of their actions

(Jolliffe & Farigton, 2011), leading to behaviors of direct, verbal and physical aggression (Björkvist, Österman & Kaukiainen, 2000)

Several studies have also concluded that deficits in empathy are associated with anti-social and violent behaviors (Miller & Eisenberg, 1988; Robison, Roberts, Strayer, & Koopman, 2007). A study by Lin and colleagues (2017) with a sample of inmates, also concluded that they have less empathy when compared to the normative population.

The literature shows that early exposure to violence, such as child abuse, increases the risk of health and social problems and is particularly associated with committing crimes in adulthood (Finkerlhor, 2008; Thornberry, Henry, Ireland & Smith, 2010). Other authors corroborate this idea, referring to the fact that prisoners demonstrate having experienced various forms of trauma, both in childhood and in adult life (Sadeh & McNeil, 2015; Wolff & Shi, 2012). Studies also show that delinquent behaviors do not derive only from the interaction of individual variables, but also from family variables (Batalha, Nascimento, Santos, Avelino, & Targino, 2020). This statement is in line with what was previously mentioned that family experiences in childhood have a great weight throughout life (Masten, 2014).

Objectives

The present research has as main objectives: adapt the BCEs to the Portuguese population; verify the association between the positive experiences of youth life (BCEs) and the experiences of youth victimization (BCEs) in the normative population; verify there is a relationship between positive experiences (BCEs), traumatic experiences (CTQ), and empathy (IRI); verify if in the sample of individuals who committed crimes, there is a relationship between the commission of crimes and the traumatic experiences of victimization experienced in childhood; verify if there are differences, in a sample of the normative population and in a sample of the inmates, in positive experiences, in the traumatic experiences of victimization lived in childhood, and in the levels of empathy in adulthood; verify whether the positive experiences and the traumatic experiences of victimization experienced in childhood predict empathy; verify whether the positive experiences experienced in childhood have an impact on the type of crimes committed; and verify whether reclusion predicts empathy.

Thesis structure

The thesis is divided into four parts. First, the state of the art that supports the research objectives will be presented. The second part will contain the methodology that consists of the characterization of the sample, the procedure, instruments, and statistical analysis.

In the third part, we can then find the first and second articles of this thesis. In the first article, we adapt the BCEs for the Portuguese population. In the second article, the relationship between the positive experiences of childhood and youth life, the experiences of child and youth victimization, and empathy in adulthood between the prison population and the normative population is understood. Finally, we find the results and conclusions drawn from the two articles.

Method

Sample

In the first paper, the sample comprises 1886 Portuguese participants aged between 18 and 91 years old ($M = 36.36$, $SD = 13.66$), of which 1475 (78.2%) of the participants are women and 411 (21.8%) are men. Regarding marital status, 884 (46.9%) participants are single, 842 (44.6%) are married or live-in cohabitation, 145 (7.7%) are separated or divorced, and 15 (.8%) are widowed. Concerning educational qualifications, 93 (4.9%) of the participants attended school up to the 9th year, 577 (30.6%) up to the 12th year, and 1107 (58.7%) attended high school. From the 1886 participants, 788 (41.8%) report having suffered a trauma in the last three years, which 372 (19.7%) having suffered a type of victimization.

The sample of the second paper consists of 244 participants aged between 18 and 73 years old ($M = 35.61$, $SD = 11.56$). Of the 244 participants, 123 belong to the normative population and 119 to the prison population. The 123 participants belonging to the normative population are aged between 18 and 67 years old ($M = 34.28$, $DP = 11.90$), with 100 being female and 23 males. Of these 123 participants, 65 are single (52.8%), 46 are married or living in cohabitation (37.4%), and 12 are separated or divorced (9.8%). Regarding the academic qualifications, two studied up to the 9th grade (1.6%), 43 up to the 12th grade (35%), 72 followed higher education (58.5%), and six have other qualifications (4.9%). Regarding the professional situation, 22 are students (9%), 90 are employed (36.9%), five are unemployed (2%), and four are retired (1.6%).

The 119 inmates aged between 18 and 73 years old ($M= 36.97$, $DP= 11.09$), are all male. Regarding marital status, 61 are single (50.4%), 44 are married or living in a de facto relationship (36.4%), 10 are separated or divorced (8.3%) and three are widowers (2.5%). Concerning educational qualifications, 107 inmates studied up to the 9th grade (88.4%), and 13 up to the 12th grade (10.7%). At the time of the arrest, nine inmates were students (3.7%), 76 were employed (31.1%), 30 were unemployed (12.3%), two were retired (.8%), and one was in another professional situation (.4%). Regarding the crimes committed, 29 (24%) individuals were arrested for drug trafficking, 14 (11.6%) for assault, 10 (8.3%) for theft, 9 (7.4%) for homicide, 9 (7.4%) for domestic violence, 7 (5.8%) for child sexual abuse, 5 (4.1%) for fraud, 4 (3.3%) for attempted murder, 4 (3.3%) for aggression, 4 (3.3%) for driving without legal clearance, 3 (2.5%) for rape, 3 (2.5%) for possession of an illegal weapon, 3 (2.5%) for driving under the influence of alcohol, 1 (.8%) kidnapping, 1 (.8%) arms trafficking, 1 (.8%) for fraud, 1 (.8%) for fire and, finally, 1 (.8%) for disobedience.

Measures

Sociodemographic questionnaire. A sociodemographic questionnaire was used, consisting of the variables: age, sex, nationality, place of residence, educational qualifications, professional status, profession, and marital status. Some questions were also included, such as: “Are you in a relationship? If so, how long?”, “Have children?”, “Have you ever been convicted of committing a crime? If so, what type of crime?”, “Briefly how does it characterize your childhood?”, “Has suffered some type of trauma in the past three years? (persecuted, divorced, physically assaulted, sexually assaulted, theft/assault, housing damaged by natural causes, serious injuries, spontaneous abortion, other trauma)”. Questions were also added to the prison population, such as: “What crime are you serving a sentence for?”, “How long is the sentence?”, and “Have you been convicted of any crime in the past?”.

Benevolent Childhood Experiences Scale (BCEs: Narayan, Rivera, Bernstein, Harris, & Lieberman, 2017). This scale was built to evaluate the presence of experiences and resources positives experienced between 0 and 18 years. Is composed of 10 items that must be answered in a dichotomous manner, with "Yes" or "No", and aimed to identify relational and internal safety and security, positive and predictable quality of life, and interpersonal support.

Childhood Trauma Questionnaire (CTQ: Dias, Sales, Carvalho, Castro-Vale, Kleber, & Cardoso, 2013). CTQ was developed to assess the existence of traumatic experiences of abuse in childhood. The instrument consists of 28 items, answered according to a Likert scale of 5 points (e.g., "Never true", "Rarely true", "Sometimes true", "Often true" and "Very often true"). CTQ is composed of five subscales representing different types of maltreatment: emotional abuse, physical abuse, sexual abuse, physical neglect, and emotional neglect. The Portuguese version had a Cronbach's alpha of 0.84, and the subscales: emotional abuse ($\alpha = .71$), physical abuse ($\alpha = .77$), sexual abuse ($\alpha = .71$), physical neglect ($\alpha = .47$) and emotional neglect ($\alpha = .79$). The authors state that alpha values are acceptable, except for the physical negligence subscale. Although they tried to remove items, the increase in alpha did not occur.

Interpersonal Reactivity Index (IRI: Limpo, Alves, & Catro, 2010). The instrument used to assess empathy is the Portuguese version of the Interpersonal Reactivity Index (Davis, 1980), the Interpersonal Reactivity Survey (IRI) translated by Limpo, Alves, and Castro (2010). This instrument is composed of 24 items that must be answered on a Likert-type scale ranging from 0 "Does not describe me well" to 4 "Describes me very well". These items are divided into four subscales: perspective taking ($\alpha = .74$), empathic concern ($\alpha = .77$), personal distress ($\alpha = .81$) and fantasy ($\alpha = .83$).

Procedure

The sample answered the protocol with the instruments mentioned above. It was collected in person, with a sample of Portuguese inmates and, online, with a sample of the normative population. Since this study is part of a project, the first paper comprises some of the samples collected previously by the supervisor Prof. Telma Almeida. All participants signed the informed consent and filled out a protocol consisting of a sociodemographic questionnaire, by BCEs, CTQ, and IRI. This protocol was approved by the Institutional Review Board of the University and by the Ethics Committee of the Instituto Universitário Egas Moniz.

Data Analysis

Statistical Package for Social Sciences (SPSS; IBM SPSS Statistics. Version 26.0, Armonk, NY: IBM Corp.) was used to perform the statistical analyzes. Through SPSS, a database was created and recorded where age was divided through a study of quartiles and groups that were created for the marital status, education level, and professional situation.

In the first paper to study the association between benevolent experiences in childhood (BCEs) and childhood trauma (CTQ), a correlation analysis was used, applying Pearson's correlation coefficients. The One-Way ANOVA was carried out to verify the differences between the groups concerning the scores obtained in the Benevolent Experiences in Childhood Scale. The BCEs predictive validity for positive experiences and trauma in childhood was tested through two logistic regressions (for experiencing trauma in the last three years and for experiencing victimization in the last three years). For each regression, the total scores of the BCEs and the CTQ were introduced in the first stage, and the subscales for each of the questionnaires were introduced in the second stage. After the regressions, a cluster analysis was carried out to verify whether the participants differed in the average levels of the BCEs and CTQ.

In the second paper to study the association between benevolent experiences in childhood (BCEs), childhood trauma (CTQ), and empathy in adults (IRI) a correlation analysis was used, applying Pearson's correlation coefficients. The One-Way ANOVA was carried out to verify the differences between the groups concerning the scores obtained in the BCEs, CTQ, and IRI. Multiple linear regression was also performed to verify whether positive experiences (BCEs) and infantile trauma (CTQ) predict empathy in adulthood.

References

- Bagwell, C. L., Newcomb, A. F., & Bukowski, W. M. (1998). Preadolescent friendship and peer rejection as predictors of adult adjustment. *Child Development, 69*, 140–153. <https://doi.org/10.2307/1132076>
- Bandura, A., Ross, D., & Ross, S. A. (1961). Transmission of aggression through imitation of aggressive models. *The Journal of Abnormal and Social Psychology, 63*(3), 575-582. <https://doi.org/10.1037/h0045925>
- Baron-Cohen, S., & Wheelwright, S. (2004). The empathy quotient: An investigation of adults with Asperger syndrome or high functioning autism, and normal sex differences. *Journal of Autism and Development Disorders, 34*, 163–175. <http://dx.doi.org/10.1023/B:JADD.0000022607.19833.00>
- Bastos, L.O.D., Guerreiro, M.M., Lees, A.J., Warner, T.T., & Silveira-Moriyama, L. (2015). Effects of age and cognition on a cross-cultural pediatric adaptation of the Sniffin' Sticks Identification Test. *PLoS ONE, 10*(8). <https://doi.org/10.1371/journal.pone.0131641>
- Batalha, C. M. G., Nascimento, J. J. P., Santos, V. E. S., Avelino, L., F., L., Targino, G. C. (2020). Fatores internos e externos: Um livre trânsito para a delinquência juvenil. *Revista Brasileira de Direito e Gestão Pública, 8*(2).
- Björkqvist, K., Österman, K., & Kaukiainen, A. (2000). Social intelligence – empathy= aggression? *Aggression and Violent Behavior, 5*(2). 191-200. [https://doi.org/10.1016/S1359-1789\(98\)00029-9](https://doi.org/10.1016/S1359-1789(98)00029-9)
- Bohart, A. C., Elliott, R., Greenberg, L. S., & Watson, J. C. (2002). *Empathy*. In J. C. Norcross (Ed.), *Psychotherapy relationships that work, Therapist contributions, and responsiveness to patients* (pp. 89-108). Oxford: University Press
- Briere, J. (2002). Treating adult survivors of severe childhood abuse and neglect: Further development of an integrative model. In J. E. B. Myers, L. Berliner, J. Briere, C. T. Hendrix, C. Jenny, & T. A. Reid (Eds.), *The APSAC handbook on child maltreatment* (pp. 175-203).
- Brockhouse, R., Msetfi, R. M., Cohen, K., Joseph, S. (2011). Vicarious exposure to trauma and growth in therapists: The moderating effects of sense of coherence, organizational support, and empathy. *Journal of Traumatic Stress, 24*(6), 735-742. <http://dx.doi.org/10.1002/jts.2070>

- Campbell, C., Roberts, Y., Synder, F., Papp, J., Strambler, M., & Crusto, C. (2016). The assessment of early trauma exposure on the social-emotional health of young children. *Children and Youth Services Review, 71*, 308-314.
<https://doi.org/10.1016/j.childyouth.2016.11.004>
- Comissão de Proteção de Crianças e Jovens [Child and Youth Protection Commission] (2020). Avaliação da atividade das CPCJ: Relatório anual 2019. Retrieved from <https://www.cnpdpcj.gov.pt/documents/10182/16406/Relat%C3%B3rio+Anual+de+avalia%C3%A7%C3%A3o+da+atividade+das+CPCJ+do+ano+de+2019/e168c7fb-ddc8-4524-ba20-9511d8a5ae27>
- Dargis, M., Newman, J., & Koenings, M. (2015). Clarifying the link between childhood abuse history and psychopathic traits in adult criminal offenders. *Personality Disorders: Theory, Research, and Treatment, 7*(3).
<http://dx.doi.org/10.1037/per0000147>
- Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology, 44*(1), 113-126. <https://doi.org/10.1037/0022-3514.44.1.113>
- Decety, J., & Jackson, P. L. (2004). The functional architecture of human empathy. *Behavioral and Cognitive Neuroscience Reviews, 3*(2), 71-100.
<https://doi.org/10.1177/1534582304267187>
- Dias, A., Sales, L., Carvalho, A., Castro-Vale, I., Kleber, R., & Cardoso, R. M. (2013). Estudo de propriedades psicométricas do Questionário de Trauma de Infância – Versão breve numa amostra portuguesa não clínica. *Laboratório de Psicologia, 11*(2), 103-120. <https://doi.org/10.14417/lp.11.2.713>
- Dugal, C., Bigras, N., Godbut, N., & Bélanger, C. (2016). Childhood interpersonal trauma and its repercussions in adulthood: Na analysis of psychological and interpersonal sequelae. In G. El-Baalbaki & C. Fortin (Eds.). *A Multidimensional Approach to Post-Traumatic Stress Disorder – from Theory to Practice* (pp.71-106). Croatia: Janeza Trdine. <http://dx.doi.org/10,5772/64476>
- Finkelhor, D., (2008). *Childhood Victimization: Violence, Crime, and Abuse in the Lives of Young People*. New York: Oxford University Press.
- Flores, E., Cicchetti, D., & Rogosch, F. (2005). Predictors of resilience in maltreated and non-maltreated Latino children. *Developmental Psychology, 41*(2). 338-351.
<http://doi/10.1037/0012-1649.41.2.338>

- Fox, B. H., Perez, N., Cass, E., Baglivio, M., & Epps, N. (2015). Trauma changes everything: Examining the relationship between adverse childhood experiences and serious, violent, and chronic juvenile offenders. *Child Abuse and Neglect*, *46*, 163-173. <https://doi.org/10.1016/j.chiabu.2015.01.011>
- Garaigorbidil, M., & Maganto, C. (2011). Empathy and conflict resolution during infancy and adolescence. *Revista Latinoamericana de Psicología*, *43*(2), 255-266.
- Gilbert, R., Kemp, A., Thobum, J., Sidebotham, P., Radford, L., Glaser, D., MacMillan, H. L. (2009). *Lancet*, *373*, 167-180. [http://doi/10.1016/S0140-6736\(08\)61707-9](http://doi/10.1016/S0140-6736(08)61707-9)
- Leeb, R. T., Melanson, C., Paulozzi, L. J., Simon, T. R., & Arias, I. (2008). Child maltreatment surveillance: Uniform definitions for public health and recommended data elements. Atlanta: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Retrieved from https://www.cdc.gov/violenceprevention/pdf/cm_surveillance-a.pdf
- Granot, D., & Mayseless, O. (2001). Attachment security and adjustment to school in middle childhood. *International Journal of Behavioral Development*, *25*, 530-541. <http://dx.doi.org/10.1080/01650250042000366>
- Jolliffe, D., & Farrington, D. P. (2011). Is low empathy related to bullying after controlling for individual and social background variables? *Journal of Adolescence*, *34*(1), 59-71. <https://doi.org/10.1016/j.adolescence.2010.02.001>
- Katz, P. (1996). Raising feminists. *Psychology of Women Quarterly*, *20*, 323-340. <https://doi.org/10.1111/j.1471-6402.1996.tb00303.x>
- Kessler, R.C., McLaughlin, K.A., Green, J.G., Gruber, M.J., Sampson, N.A., Zaslavsky, A.M., Aguilar-Gaxiola, S., Alhamzawi, A.O., Alonso, J., Angermeyer, M., Benjet, C., Bromet, E., Chatterji, S., de Girolamo, G., Demyttenaere, K., Fayyad, J., Florescu, S., Gal, G., Gureje, O., Haro, J.M., Hu, C.Y., Karam, E.G., Kawakami, N., Lee, S., Lépine, J.P., Ormel, J., Posada-Villa, J., Sagar, R., Tsang, A., Ustün, T.B., Vassilev, S., Viana, M.C., Williams, D.R. (2010). Childhood adversities and adult psychopathology in the WHO World Mental Health Surveys. *The British Journal of Psychiatry*, *197*(5), 378-85. <https://doi.org/10.1192/bjp.bp.110.080499>
- Limpo, T., Alves, R. A., & Catro, S. L., (2010). Medir a empatia: Adaptação portuguesa do Índice de Reatividade Interpessoal. *Laboratório de Psicologia*, *8*(2), 171-184. <http://dx.doi.org/10.14417/lp.640>

- Lin, H., Yang, Y., McFatter, R., Biggar, R. W., & Perkins, R. (2017). Relation to perceived parenting and attachment working models. *Journal of Criminal Psychology, 7*(4). <https://doi.org/10.1108/JCP-09-2016-0024>
- Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success?. *Psychological Bulletin, 131*(6), 803-855. <https://doi.org/10.1037/0033-2909.131.6.803>
- Masten, A. S. (2006). Developmental psychopathology: Pathways to the future. *International Journal of Behavioral Development, 31*, 46-53. <http://dx.doi.org/10.1177/0165025406059974>
- Masten, A. S. (2014). *Ordinary magic: Resilience in development*. New York: Guilford Press.
- Miller, P. A., & Eisenberg, N. (1988). The relation of empathy to aggressive and externalizing/antisocial behavior. *Psychological Bulletin, 103*(3), 324-344. <https://doi.org/10.1037/0033-2909.103.3.324>
- Narayan, A. J., Rivera, L. M., Bernstein, R. E., Harris, W. W., & Lieberman, A. F. (2017). Positive childhood experiences predict less psychopathology and stress in pregnant women with childhood adversity: A pilot study of the benevolent childhood experiences (BCEs) scale. *Child And Abuse Neglect, 1-12*. <https://dx.doi.org/10.1016/j.chiabu.2017.09.022>
- Oliveira-Formosinho, J. (1996). *Educação pré-escolar: A construção social da moralidade*. Lisboa: Texto Editora.
- Preston, S. D., & Waal, F. B. M., 2002. Empathy: Its ultimate and proximate bases. *Behavioral and Brain Sciences, 25*(1), 1-20. <http://dx.doi.org/10.1017/S0140525X02000018>
- Quas, J. A., Dickerson, K. L., Matthew, R., Harron, C., Quas, C. M. (2017). Adversity, emotion recognition, and empathic concern in high-risk youth. *PLoS ONE, 12*(7). <https://doi.org/10.1371/journal.pone.0181606>
- Robinson, R., Roberts, W. L., Strayer, J., & Koopman, R. (2007). Empathy and emotional responsiveness in delinquent and non-delinquent adolescents. *Social Development, 16*(3), 555-579. <https://doi.org/10.1111/j.1467-9507.2007.00396.x>
- Sadeh, N., & McNiel, N. (2015). Posttraumatic stress disorder increases the risk of criminal recidivism among justice-involved persons with mental disorders. *Criminal Justice and Behaviour, 42*(6), 573–586. <http://dx.doi.org/10.1177/0093854814556880>

- Schilling, S., & Christian, C. W. (2014). Child physical abuse and neglect. *Child and Adolescent Psychiatric Clinics of North America*, 23, 309-319.
<http://dx.doi.org/10.1016/j.chc.2014.01.001>
- Sistema de Segurança Interna [System of Internal Security] (2020). Relatório Anual de Segurança Interna (RASI). Retrived from <https://www.portugal.gov.pt/download-ficheiros/ficheiro.aspx?v=19cabc8c-e3f1-4cb2-a491-a10c8a3e4bf0>
- Soto, J. A., & Levenson, R. W. (2009). Emotion recognition across cultures: The influence of ethnicity on empathic accuracy and physiological linkage. *Emotion*, 9(6), 874-884. <https://doi.org/10.1037/a0017399>
- 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. *Journal of Adolescence Health* 46(4), 359–365.
<http://dx.doi.org/10.1016/j.jadohealth.2009.09.011>
- Wolff, N., & Shi, J. (2012). Childhood and adult trauma experiences of incarcerated persons and their relationship to adult behavioral problems and treatment. *International Journal of Environmental Research and Public Health*, 9, 1908–1926.
<http://dx.doi.org/10.3390/ijerph9051908>

Article 1

The Portuguese Version of the Benevolent Childhood Experiences Scale

Resumo

Enquadramento: As experiências positivas da infância têm um efeito positivo na idade adulta, no que diz respeito ao trauma infantil. A ausência de experiências positivas pode ser mais prejudicial ao longo da vida do que a presença de trauma. As perspetivas da psicopatologia do desenvolvimento defendem que as primeiras experiências sociais, como o vínculo com cuidadores, o bom relacionamento com outros familiares, colegas e professores, podem trazer relacionamentos futuros saudáveis e integração de experiências sociais. **Objetivos:** Este estudo tem como objetivo principal adaptar a Escala de Experiências Benevolentes na Infância (BCEs) para a população portuguesa. **Participantes:** A amostra é composta por 1886 participantes portugueses com idades compreendidas entre os 18 e os 91 anos ($M = 36.36$, $DP = 13.66$), dos quais 1475 (78.2%) são mulheres e 411 (21.8%) são homens. **Método:** Os participantes responderam a um protocolo *online* composto por um questionário sociodemográfico, pelo BCEs e o Questionário de Trauma na Infância (CTQ). **Resultados:** Os resultados mostraram que pontuações mais altas de BCEs previram menos trauma e vitimização na idade adulta. As análises de *clusters* também mostraram que pontuações mais altas de BCEs superaram os efeitos do trauma infantil. O BCEs indexa promotores associados a menos trauma e vitimização na vida adulta e esclarece como as experiências favoráveis da infância podem neutralizar os efeitos de longo prazo das adversidades da infância. **Conclusão:** Este estudo demonstra que a versão em português dos BCEs pode ser usada como uma ferramenta válida e confiável para identificar experiências de vida positivas. Além disso, os nossos resultados mostraram que experiências positivas durante a infância podem reduzir a ocorrência de traumas durante a infância.

Palavras-chave: Experiências benevolentes na infância, Trauma infantil, Trauma na idade adulta

Abstract

Background: Positive childhood experiences have a positive effect on adulthood, concerning childhood trauma, and the absence of positive experiences can be more damaging throughout life than the presence of trauma. The developmental psychopathology perspectives argue that the first social experiences, such as bonding with caregivers, the good relationship with other family members, peers, and teachers can bring healthy future relationships and integration of social experiences. **Objectives:** The present research has as the main objective to adapt to the Benevolent Childhood Experiences Scale (BCEs) to the Portuguese population. **Participants:** The sample comprises 1886 Portuguese participants aged between 18 and 91 years old ($M = 36.36$, $SD = 13.66$), of which 1475 (78.2%) are women and 411 (21.8%) are men. **Method:** The participants answered an online protocol consisting of a sociodemographic questionnaire, the BCEs, and the Childhood Trauma Questionnaire (CTQ). **Results:** The results showed that higher scores of BCEs predicted less trauma and victimization in adulthood. Cluster analyzes also showed that higher scores of BCEs outweigh the effects of childhood trauma. The BCEs index promoters associated with less trauma and victimization in adulthood and sheds light on how favorable childhood experiences can counteract the long-term effects of childhood adversities. **Conclusion:** This study demonstrates that the Portuguese version of the BCEs can be used as a valid and reliable tool to identify positive life experiences. Also, our findings showed that positive experiences during childhood can reduce the occurrence of trauma during childhood.

Keywords: Benevolent childhood experiences, Childhood trauma, Adulthood trauma

Introduction

For many years, Psychology has emphasized dysfunction and psychopathology (Gable & Haidt, 2005). For this reason, the relationship between negative life experiences and negative outcomes is well documented. Several studies have confirmed some effects of these negative experiences, such as emotional maladjustment, victimization experiences (Merrick, Narayan, Atzl, & Harris, 2020), antisocial behaviors (Braga, Cunha, & Maia, 2018), and mental disorders (Gunay-Oge, Pehlivan, & Isikli, 2020). However, positive life experiences tend to occur more frequently than negative ones (Gable & Haidt 2005).

Psychological trauma can occur at any time in life, distinguished by its intensity (Eizirik et al., 2006), and not all individuals experience the traumatic event in the same way (Peres, Merchant, & Nasello, 2005). Childhood trauma victimization is usually associated with child maltreatment such as emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect. Trauma can be experienced in the first person or just as a witness (Beilharz et al., 2019), may occur during childhood or adolescence, and may have negative repercussions on mental health that prevail in adult life (Bussey & Wise, 2007). It is associated with various health problems in adulthood, such as anxiety, obsessive-compulsive disorders, suicidal thoughts, and depression (Assche, Ven, Vandenbulcke, & Luyten, 2020; Mersky, 2013). Increased suffering, reactivity, and lack of sleep are linked to childhood trauma (Beilharz et al., 2019). Low psychosocial abilities in adulthood are also linked to childhood trauma, especially when the child experiences emotional abuse, emotional neglect, and physical neglect (Beilharz et al., 2019). A meta-analysis demonstrated that child abuse is related to antisocial behavior in adulthood, especially when abuse occurs in childhood and adolescence (Braga et al., 2018). The experience of trauma victimization can be difficult to process throughout life, leading to several emotions ranging from anger to sadness, confusion, and hopelessness (Beilharz et al., 2019).

Despite the above, studies indicate that positive experiences in childhood have a positive effect on adulthood and that the absence of these same experiences can be more harmful throughout life than the presence of trauma (Crandall et al., 2019). Positive life experiences are not just the opposite or the absence of problematic behaviors, but the promotion of social skills (Kosterman et al., 2005; Kosterman et al., 2011). Bethell et al. (2019) also concluded that positive childhood experiences are associated with social and

relational skills and good health in adulthood. Safe childhood attachment and effective parenting behaviors (Cicchetti, & Toth 2009; Wright, 2013) can promote, for example, protective effects on young people's social and emotional skills (Yamaoka & Bard, 2019). Also, a good relationship with colleagues, teachers, and family (Cicchetti, 2009; Park, 2004), and self-recognition (Cicchetti, & Toth 2009) are part of positive experiences. All of these positive experiences occur in individuals' daily lives through interaction with the physical and social world (Park, 2004), and can help children adapt to other events, including negatives, such as abuse and exposure to violence (Luther, 2015). These positive experiences are crucial for a pleasant life and are thus associated with positive development (Park, 2004), and good health (Bethell, Jones, Gombojav, Linkenbach, & Sege, 2019). Positive experiences and strong childhood relationships allow building resilience, helping individuals to better endure adverse experiences throughout life (Poole, Dobson, & Pusch 2017; Sege & Browne, 2017). It is necessary to take into account the characteristics of youth, parents' lifestyle, socioeconomic status, and adverse life events (Caldera & Hart, 2004), since childhood experiences can play a positive role in the functioning of adult life (Narayan, Rivera, Bernstein, Harris, & Lieberman, 2017).

The developmental psychopathology theory, used to understand child abuse and its consequences (Toth & Cicchetti, 2013), warns that the promoting factors are different from the protective factors. Thus, the promoting factors are evident by direct and main effects and are associated with favorable results for both children living in a low-risk and high-risk context. Protective factors, on the other hand, help to reduce the likelihood of damage, as the risk increases (Masten & Cicchetti, 2016). This perspective argues that the first social experiences, such as bonding with caregivers, the good relationship with other family members, peers, and teachers bring healthy future relationships and integration of social experiences (Cicchetti & Toth, 2009). Thus, it is safe to say that these first experiences can improve future social experiences by promoting healthy relationships (Narayan et al., 2017).

The Benevolent Childhood Experiences scale (BCEs)

The Benevolent Childhood Experiences Scale (BCEs: Narayan et al., 2017) was built to bridge gaps in other instruments that also sought to assess positive life experiences. In this way, one of the advantages of this scale is that it be transcultural so that it can be used in both rural and more developed regions and that it covers all

socioeconomic status. This scale consists of 10 items in a "Yes" or "No", that the original authors divided into three concepts: the perceived relational and internal security (e.g., there was at least one safe caregiver; beliefs that gave comfort); the positive and predictable quality of life (e.g., regular meals and bedtime), and the interpersonal support (e.g., a teacher who cared). The fact that the scale is responded with a dichotomous answer makes the instrument more objective and provides adequate reliability, discarding events details (e.g., frequency) that can make the instrument less reliable (Narayan et al., 2017). Since the instrument consists of a few items, it also facilitates the response time, which can be a quick tool. The psychometric properties of the scale were validated in a sample of 101 pregnant women, who had high levels of childhood adversity. The study showed that, despite the effects of childhood adversity, high levels of BCEs between 0 and 18 years of age-predicted low scores of prenatal post-traumatic stress disorder (PTSD) symptoms and exposure to stressful prenatal life events. Thus, high levels of BCEs compensated for the effects of childhood adversity on PTSD symptoms and stressful events. The BCEs also showed excellent test-retest reliability ($r = .80, p < 0.01$) (Narayan et al., 2017).

The BCEs have also been adapted for the Turkish population (Gunay-Oge, Pehlivan, & Isikli, 2020). The authors applied the instrument into two samples: a sample of university psychology students and an online sample. Through an exploratory factor analysis (EFA) and a confirmatory factor analysis (CFA), the authors concluded that the scale is composed of two factors: perceived safety and support; and internal and environmental motivation. This study showed a Cronbach's alpha of .61 for the total score and of .55 and .45 for the perceived safety and support scale and internal and environmental motivation scale, respectively (Gunay-Oge et al., 2020).

The adaptation of a measure for the Portuguese population that evaluated the positive experiences in childhood was based on the scarcity of these same instruments for this population. To the best of our knowledge, in Portugal, only two instruments assess the positive experiences in childhood/adolescence, namely, the Lifetime Experiences Scale (LIFES) development by Azevedo (2016), and the Positive Experiences Questionnaire development by Marques-Pinto and colleagues (2019). In this way, the BCEs will be an advantage for the Portuguese population, since it is a brief instrument and therefore of quick response. This research has as the main objective to adapt the BCEs to Portuguese, examining their psychometric properties in this population.

Method

Sample

The sample comprises 1886 Portuguese participants aged between 18 and 91 years old ($M = 36.36$, $SD = 13.66$), of which 1475 (78.2%) are women and 411 (21.8%) are men. Regarding marital status, 884 (46.9%) participants are single, 842 (44.6%) are married or live in cohabitation, 145 (7.7%) are separated or divorced, and 15 (.8%) are widowed. Concerning educational qualifications, 93 (4.9%) participants attended school up to the 9th grade, 577 (30.6%) up to the 12th grade, and 1107 (58.7%) attended high school. Of the 1886 participants, 788 (41.8%) reported having suffered some trauma in the past three years. Of these 788 participants, 372 (19.7%) suffered some type of victimization.

Measures

Sociodemographic questionnaire. A sociodemographic questionnaire was developed to gather information about participants' age, gender, educational qualifications, professional status, and marital status. We also include the questions: "Has you suffered some type of trauma in the last three years (persecuted; divorced; physically assaulted; sexually assaulted; theft/assault; housing damaged by natural causes; serious injuries; spontaneous abortion; other trauma)?" Through the analysis of this question, that is, of the traumas reported in it, the analysis of victimization emerged.

Benevolent Childhood Experiences Scale (BCEs; Narayan et al., 2017): This scale was built to evaluate the presence of experiences and resources positives experienced between 0 and 18 years. Is composed of 10 items that must be answered in a dichotomous scale, with "Yes" or "No", and aimed to identify relational and internal safety and security, positive and predictable quality of life, and interpersonal support.

Childhood Trauma Questionnaire (CTQ; Bernstein et al., 2003; Dias, Sales, Carvalho, Castro-Vale, Kleber, & Cardoso, 2013). CTQ was developed to assess the existence of traumatic experiences of abuse in childhood. The instrument consists of 28 items, answered according to a Likert scale of 5 points (e.g., "Never true", "Rarely true", "Sometimes true", "Often true" and "Very often true"). CTQ is composed of five subscales representing different types of maltreatment: emotional abuse, physical abuse,

sexual abuse, physical neglect, and emotional neglect. The original version shows good psychometric properties, with the following values for internal consistency: emotional abuse ($\alpha = .89$), physical abuse ($\alpha = .82$), sexual abuse ($\alpha = .92$), physical neglect ($\alpha = .66$) and emotional neglect ($\alpha = .89$) (Bernstein et al., 2003). The Portuguese version (Dias et al., 2003) had a Cronbach's alpha of .84 for the total scale and .71 for emotional abuse, .77 for physical abuse, .71 for sexual, .47 for physical neglect, and .79 for emotional neglect. In our study the, the alphas of CTQ ($\alpha = .77$) are acceptable for the subscales: emotional abuse ($\alpha = .83$); emotional neglect ($\alpha = .87$); sexual abuse ($\alpha = .84$); physical abuse ($\alpha = .83$); physical negligence ($\alpha = .50$).

Procedure

The study design is cross-sectional with a non-probabilistic sample. First, the BCE was translated from English to Portuguese by three researchers and then translated from Portuguese to English by two researchers. The final version of the BCE, the CTQ, and the sociodemographic questionnaire were inserted in Google Form. The link to fill out the research protocol was disseminated through social networks and email. Information on the objectives and procedures of the study was on the first page of the protocol, stating that it would be anonymous and confidential. All participants signed electronically an informed consent. The study was conducted by the ethical principles outlined in the Declaration of Helsinki (World Medical Association, 2013), and the protocol was approved by the Institutional Review Board.

Data Analysis

In the first step, descriptive statistics for all values in the study were calculated, including minimum and maximum values and standard deviation. The frequencies of BCEs items were also examined. To study the association between BCE and CTQ Pearson's correlation coefficients test was used. The One-Way ANOVA was carried out to verify the differences between the groups concerning the scores obtained in the BCE. Reliability was evaluated using Cronbach's alphas with satisfactory values of .60. The BCE's predictive validity for trauma and victimization in the past three years has been tested in four hierarchical linear regressions. For each regression the five variables were inserted in the first stage, the total score of the BCEs was inserted in the second stage, the total score of the CTQ was inserted in the third stage and the scores of the subscales

of the CTQ were inserted in the fourth stage. After regressions, a cluster analysis examined whether the subgroups differed in the mean levels of BCEs and CTQ in trauma and victimization experiences in the past three years. The hierarchical cluster was used to determine the number of clusters that best fit the data. Statistical Package for Social Sciences (SPSS; IBM SPSS Statistics. Version 26.0, Armonk, NY: IBM Corp.) was used to perform the statistical analyzes.

Results

Descriptive analysis

Concerning to BCE total score (see Table 1), participants presented considerably high values, meaning that participants reported on average 8.92 (SD = 1.55) positive experiences in childhood. The most prevalent positive experiences reported were (Table 1): have at least one caregiver with whom him/her felt safe (96.5%); have at least one good friend (96.8%); have at least one teacher who cared about him/her (92.2%); have opportunities to have a good time (94.4%).

Insert Table 1 here

Construct Validity

An exploratory factor analysis (EFA), with varimax, quartimax, equamax, and direct oblimin rotations, was carried out to analyze the scale's structure. The rotation was performed; however, the results did not produce an interpretable factorial structure. Thus, the instrument appears to work best with a one-dimensional structure.

Discriminant validity

To study the association between benevolent experiences in childhood (BCEs) and childhood trauma (CTQ), Pearson's correlation test was performed. The results showed negative statistically significant associations between BCEs total score and the CTQ total score and scales (Table 2).

Insert Table 2 here

To examine differences in the BCEs scores among different groups and variables (e.g., age, marital status, educational qualifications, professional status, a trauma in the last three years, and victimization in the last three years) the One-Way ANOVA was

used. Results are presented in Table 3. Regarding age, two groups were defined (18 years old to 40, and over 40 years). Participants with 41 or more years of age had higher scores on the total score of BCE, $F(1.18) = 4.10, p = .043$ (Table 3). There were also statistically significant differences between marital status groups in the total BCEs score, $F(3.18) = 3.95, p = .00$. The Tukey post hoc tests showed that married participants had a higher average compared to single participants.

Concerning educational qualifications, there were statistically significant differences between groups in BCE total score, $F(2.11) = 13.18, p < .01$. The Tukey post hoc tests showed that graduated participants had higher scores on the total scale, compared to those who completed the 9th and 12th grade. Still, participants who completed the 12th grade also had higher average values than those who completed the 9th grade.

The analysis of the professional situation showed that there were statistically significant differences between the groups in the total of the BCEs, $F(4.18) = 7.21 = p < .00$. The Tukey test showed that employees, retirees, and students had a higher average compared to the unemployed. Employees also had a higher average than students.

Regarding the experience of trauma in the last three years, there are statistically significant differences between the groups. Participants who had not suffered trauma had higher scores on the total scale, $F(1.18) = 38.33, p < .01$. Concerning the experience of victimization in the last three years, there are statistically significant differences between the groups. The group that did not suffer victimization was the one with the highest scores in the total scale, $F(1.18) = 47.53, p < .01$.

Insert Table 3 here

Internal consistency

The internal consistency was measured using Cronbach's alpha. The BCEs total score showed a Cronbach's alpha of .68.

Predictive Validity

Four binary logistic regressions were performed to identify the predictors of trauma in the last three years and the predictors of experiences of victimization in the last three years. The BCEs and CTQ total scores (Model 1 and 2; Table 4) and the BCEs

total scores and CTQ subscales (Model 3 and 4; Table 5) entered as predictors in four independent models after controlling for age, gender, professional status, marital status, and educational level.

In the models predicting trauma in the last three years, the variables included in the first step produced a statistically significant model, $\chi^2(11) = 21.96, p = .02$. These variables produced a pseudo- R^2 between 1.3% (Cox & Snell) and 1.8% (Nagelkerke), indicating that the model accurately classified 61.1% of cases. When the total BCEs (Model 1, Step 2) was added to this analysis, the model was also statistically significant, $\chi^2(1) = 22.46, p < .00$. The contribution of these variables produced a pseudo- R^2 between 2.7% (Cox & Snell) and 3.6% (Nagelkerke), indicating that the model accurately classified 62.8% of cases. Adding to the analysis the total CTQ (Model 1, Step 3), the model was also statistically significant, $\chi^2(1) = 29.75, p < .00$, as was the final model, $\chi^2(13) = 74.18, p < .00$. The contribution of this variable produced a pseudo- R^2 between 4.4% (Cox & Snell) and 6% (Nagelkerke), classifying accurately 63.7% of the cases. A separate analysis of the variables used to predict the experience of trauma in the last three years revealed that only the total CTQ (OR = 2.93) is positively related to the experience of trauma in the last three years (Table 4).

Insert Table 4 here

When the CTQ's subscales were included in the analysis (Model 3, step 3), the model is also statistically significant, $\chi^2(5) = 43.75, p < .00$, as the final model, $\chi^2(17) = 88.17, p < .00$. The contribution of this variable produced a pseudo- R^2 between 5.2% (Cox & Snell) and 7.1% (Nagelkerke), classifying accurately 64.6% of the cases. Analyzing the variables individually, being separated/divorced (OR = 1.49), the CTQ emotional abuse subscale (OR = 1.09), and the CTQ physical neglect scale (OR = 1.05) are positively related to the experience of trauma in the last 3 years (Table 5).

In the models predicting experiences of victimization in the last three years, the variables included in the first step produce a statistically significant model, $\chi^2(11) = 61.07, p < .00$. These variables produce a pseudo- R^2 between 3.7% (Cox & Snell) and 5.9% (Nagelkerke), indicating that the model accurately classified 81% of cases. Adding the total BCEs (Model 2, step 2) to this analysis, the model is also statistically significant, $\chi^2(1) = 25.08, p < .00$. The contribution of these variables produced a pseudo- R^2 between 5.1% (Cox & Snell) and 8.2% (Nagelkerke), indicating that the

model accurately classified 80.9% of cases. When total CTQ was included in the analysis (Model 2, step 3), the model was also significant, $\chi^2(1) = 25.92, p < .001$, as the final model, $\chi^2(13) = 112.07, p < .00$, producing a pseudo-R between 6.6% (Cox and Snell) and 10.6% (Nagelkerke) and classifying correctly 81.4% of the cases. Age (OR = .97) is negatively related to the experience of victimization in the last three years and total CTQ (OR = 3.14) is positively related (Table 4).

Including CTQ's subscales in the analysis (Model 4, step 3), the model with these variables, $\chi^2(5) = 40.13, p < .00$, and the final model, $\chi^2(17) = 126.28, p < .00$, are significant. These variables produced a Pseudo-R that varies between 7.4% (Cox and Snell) and 11.9% (Nagelkerke), classifying accurately 81.4% of the cases. Analyzing the variables individually, age (OR = .97) is negatively related to the experience of victimization in the last three years and the CTQ emotional abuse subscale (OR = 1.10) is positively related (Table 5).

Insert Table 5 here

Cluster Analysis of BCEs and CTQ

The results of the cluster analysis indicated a three-cluster solution (Table 6). The solution identifies three groups: those with low BCEs and high maltreatment (Cluster 1 "Low BCEs", $n = 108$), those with high BCEs and low maltreatment (Cluster 2 "High BCEs", $n = 1308$), and those with moderate BCEs and moderate maltreatment (Cluster 3 "Moderate" BCEs", $n = 470$).

Qui-squared tests revealed significant differences between clusters for marital status, professional status, a trauma in the last three years, and victimization in the last three years (see Table 6). Low BCEs cluster had significantly more separated/divorced and unemployed individuals and had significantly higher levels of trauma and victimization in the last three years, compared to High BCEs and Moderate BCEs clusters. Kruskal-Wallis test showed statistically significant differences between clusters for educational level. Mann-Whitney post hoc tests indicated that the Low BCEs cluster had significantly lower educational levels than High BCEs, $U = 50769.000, p = .001$, and that the High BCEs cluster had significantly higher educational levels than the Moderate BCEs cluster, $U = 249928.00, p = .00$.

Insert Table 6 here

Discussion

This research had as the main objective to adapt the BCEs to Portuguese, examining their psychometric properties in this population. The findings of this study showed that the BCEs are a valid and reliable tool to be used in the Portuguese context.

Regarding internal consistency, studies show that a value of .6 is acceptable (Griethuijzen et al., 2015; Taber, 2018) and, therefore, Cronbach's alpha value was satisfactory. As the scale consists of only 10 items, it was expected that the alpha value would be low, as shown by studies (Vet, Mokkink, Mosmuller, & Terwee, 2017).

Regarding positive childhood experiences, the participants demonstrated that they had experienced many. The most prevalent positive experiences were having at least one caregiver with whom they felt safe; at least one good friend; at least one teacher who cared about them; and opportunities to have fun. These results are in line with what the literature describes. Most studies report that positive childhood experiences are associated with bonding with caregivers (Wright, 2013) and good relationships with peers and teachers (Cicchetti, & Toth 2009; Masten, 2006)

Although an exploratory factor analysis was used to analyze the scale structure, the results did not produce an interpretable factorial structure. This makes it seem that the instrument works best with a one-dimensional structure. Thus, it is important to mention that the authors of the original scale did not perform this analysis either (Narayan et al., 2017). Costello and Osborne (2005) refer that a factor with less than 3 items is usually weak and, therefore, a factor with 5 or more items will already be solid.

Discriminant validity was assessed by correlating BCEs with CTQ total score and subscales. As expected, significant negative correlations were found between BCEs and CTQ scores, meaning that more positive experiences in childhood are related to fewer experiences of trauma during childhood. These results are in accordance with previous studies (Gunay-Oge et al., 2020; Narayam et al., 2017). Previous studies found that when there is abuse in childhood, there is a tendency towards low levels of positive childhood experiences (Balistreri, 2015). Positive experiences and strong childhood relationships promote resilience, which plays a key role in supporting adverse experiences throughout life (Poole, Dobson, & Pusch 2017; Sege & Browne, 2017).

Participants over 41 years of age demonstrated that they had experienced more positive experiences in childhood. This may be related to the fact that individuals of this

age are mostly married or live in cohabitation. The results show that the married couple reported more positive experiences in childhood when compared with single individuals. These results seem to be in line with the study of Park and colleagues (2004) who reported that positive life events in childhood contribute to the development of positive affect and satisfaction with life. A study by Wishman (2006) showed that separated individuals had more traumatic experiences in childhood, such as physical abuse and sexual abuse. These results may be related to findings that reported that positive childhood experiences have an important role in relationships with others (Labella, Raby, Martin, & Roisman, 2019).

In our sample, participants with higher academic qualifications demonstrated more positive experiences in childhood. These results are corroborated by the study of Denham and Brown (2010), where they state that the social and emotional experiences shared with caregivers or with other children and adults positively influence academic life. This means that the more positive experiences they have in childhood, the more likely they tend to have more qualifications. Employees, retirees, and students also had more positive childhood experiences. The literature shows that childhood trauma is related to unemployment in adulthood (Liu et al., 2012). These results may be related to the fact that adverse childhood experiences decrease cognitive ability (Boden, Horwood, & Fergusson, 2007).

Our results showed that participants who had more positive experiences in childhood tend to report no trauma experienced in the last three years in adulthood. The same was found for participants who have not experienced any type of victimization in the past three years. These results are in line with a study by Crandall and colleagues (2019), where they state that regardless of the number of negative experiences experienced in childhood, positive experiences seem to promote better health and well-being in adulthood. Some authors also indicated that vulnerability in childhood tends to remain in adulthood (Aaron, Criniti, Bonacquisti & Geller, 2013; Sigurdasdottir & Halldorsdottir, 2012).

The results of the predictive validity demonstrated that the experience of trauma, emotional abuse, and physical neglect in childhood predicts the experience of trauma in adulthood. The experience of trauma and emotional abuse in childhood still predict victimization in adulthood. These data are in line with other studies that mention that childhood emotional abuse may be related to the experience of sexual abuse in adulthood (Ports, Ford, & Merrick, 2016). Riedl and colleagues (2019) found that 50%

of the individuals in their sample who experienced childhood victimization suffered from domestic violence in adulthood. Thus, they realized that childhood victimization presents risks, which when combined and cumulative can harm physical and psychosocial health. Additionally, the study by Desir and Karatekin (2019) also found that childhood victimization predicts victimization in adulthood.

Besides, being separated/divorced also predicts trauma in the last three years. This result may be related to the fact that childhood trauma influences the acquisition of emotional regulation strategies and personal skills (Sheilds, Ryan, & Cicchetti, 2001) to attach with others. This can make children become more shy and antisocial adults in their relationships with others (Theokhitou, Kabitsis, & Kabitsi, 2012). Studies show that childhood trauma and difficulties in emotional regulation can cause problems of adaptation in couples and consequently dissatisfaction in marriage (Wishman, 2006; Tekin. & Karakus 2019).

The results also showed that as age increases, victimization in adulthood decreases. Studies show that as individuals grow, social bonds expand (e.g., marriage, employment) and experience changes in cognitive abilities (e.g., future-oriented thinking) that affect how they process and respond to life events (Agnew, 2006). Arnett (2007) also argues that in adult life, victimization experiences tend to disappear due to the social bonds that are being created.

The results from the cluster analysis show how BCEs can neutralize or compensate for the effects of trauma. Theses analysis revealed that the participants are divided into three groups, high levels of BCEs and low levels of childhood trauma, nicknamed the "High BCEs"; low levels of BCEs and high levels of childhood trauma, group "Low BCEs"; and moderate BCEs, the "Moderate BCEs" group. The groups differ in the average levels of trauma and victimization in the past three years: the "High BCEs" group revealed the lowest averages in both results, and the "Low BCEs" cluster reported higher averages. The fact that the "High BCEs" have lower levels of trauma and victimization in the last three years demonstrates that positive experiences in childhood can be protective factors for better functioning in adulthood. These positive experiences in childhood also seem to be beneficial for those who had more trauma in childhood, indicating that they are an asset in the context of risk. The "Moderate BCEs" cluster has reported less trauma and victimization in the past three years than the "Low BCEs".

The group of "Low BCEs" (individuals with low levels of BCEs and high levels of CTQ) demonstrated to be composed of separated or divorced individuals, with less literacy and with more experiences of trauma and victimization in the last three years. About marital status, Whiffen and Oliver (2004) suggest that post-traumatic stress symptoms may prevent the victim from engaging in specific attachment behaviors, such as a couple of relationships, due to suffering, caused by a lack of emotional regulation and self-regulation. In this way, it makes sense for the "Low BCEs" group to be composed of separate or divorced individuals.

Finally, our results indicate that the group with "High BCEs" (individuals with high BCE levels and low CTQ levels) has shown to have more married or live-in cohabitation, more literacy skills, and less trauma and victimization in the past three years. Regarding educational qualifications, some studies report that children exposed to trauma in childhood have more academic losses (Hardaway, Larkby, & Cornelius, 2014; Perfect, Turley, Carlson, Yohanna, & Saint Gilles, 2016). Several studies have reported that the more traumatic experiences in childhood, and consequently, the less positive experiences, can lead to a greater experience of trauma and victimization in adulthood (Wilkins, Tsao, Hertz, David, & Klevens, 2014).

Limitations

This study has some limitations that may have an impact on the results. Our sample lacks heterogeneity since it is mainly composed of female participants. It is important to mention that once the sample was collected online, it was not possible to control the environment in which the protocol was answered. Since the instruments used are self-reported, there may be a social desirability when responding to them. In the future, it would be important for the sample to be more homogeneous, especially concerning gender. Finally, our sample is not representative of the entire Portuguese context, which does not allow the generalization of results.

Conclusion

Despite the limitations, this study is quite relevant as it is the first adaptation of the Portuguese version of the BCEs. This instrument is very important, as it aims to evaluate the positive experiences lived in childhood. It is a brief instrument and therefore of quick response, which makes it more attractive. Since there are few studies

on the subject, and filling a gap in the literature, this study turns out to be relevant because it offers an adequate assessment to identify positive life experiences.

Since positive experiences during childhood can reduce the occurrence of trauma during childhood, the development of preventive and interventional programs will be an advantage. Preventive programs are important to alert to the fact that positive experiences in childhood are an asset in adulthood. These programs could, for example, be promoted in the community where children live and in the school community. Preventive programs developed with children would be important, to identify potentialities and positive life situations that may be the basis of these potentialities. They can also be carried out with caregivers, teachers, and other people close to the children so that they know how they should act before the children. In addition to preventive programs, it would be important to develop intervention programs with children to minimize the impacts that some experiences may have on adult life. In that case, BCEs will be an advantage in identifying those same potentials and positive life situations.

References

- Aaron, E., Criniti, S., Bonacquisti, A., & Geller, P. (2013). Providing sensitive care for adult HIV-infected women with a history of childhood sexual abuse. *The Journal of Association of Nurses in AIDS Care*, 24(4), 355-367.
<http://dx.doi.org/10.1016/j.jana.2013.03.004>
- Agnew, R. (2006). *Pressured into crime: An overview of general strain theory*. New York: Oxford University Press.
- Arnett, J.J. (2007). Emerging adulthood: What is it, and what is it good for? *Child Development Perspectives*, 1, 68-73.
- Assche, L. V., Vem, L. V., Vandenbulcke, M., & Luyten, P. (2020). Ghosts from the past? The association between childhood interpersonal trauma, attachment and anxiety, and depression in late life. *Aging & Mental Health*, 24(6), 898-905.
<https://doi.org/10.1080/13607863.2019.1571017>
- Azevedo, V. M. F. S. (2016). *Experiências de vida e sintomatologia psicopatológica (re)contadas na vida adulta: O que se conta? O que vale o que se conta? E o que conta para se contar?* (Dissertação de mestrado, Universidade do Minho).
Disponível a partir de <http://repositorium.sdum.uminho.pt/handle/1822/48628>
- Balistreri, K. S. (2015). Adverse childhood experiences, medical home, and child well-being. *Journal of Matern Child Health*, 19, 2492-2500.
<http://dx.doi/10.1007/s10995-015-1770-6>
- Beilharz, J. E., Paterson, M., Fatt, S., Wilson, C., Burton, A., Cvejic, E., Lloyd, A., & Vollmer-Conna, U. (2019). The impact of childhood trauma on psychosocial functioning and physical health in a non-clinical community sample of young adults. *Australian & New Zealand Journal of Psychiatry*, 00(0), 1-10.
<https://doi.org/10.1177/0004867419881206>
- Bernstein D.P., Stein J.A., Newcomb M.D., et al. (2003) Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child Abuse & Neglect* 27, 169–190.
- Bethell, C., Jones, J., Gombojav, N., Linkenbach, J., & Sege, R. (2019). Positive childhood experiences and adult mental and relational health in a statewide sample: Association across adverse childhood experiences levels. *JAMA Pediatrics*, 173(11), 1-10. <https://doi:10.1001/jamapediatrics.2019.3007>

- Boden, J.M., Horwood, L.J., Fergusson, D.M. (2007). Exposure to childhood sexual and physical abuse and subsequent educational achievement outcomes. *Child Abuse and Neglect*, 31, 1101–1114.
- Braga, T., Cunha, O., Maia, A. (2018). The enduring effect of maltreatment on antisocial behavior: A meta-analysis of longitudinal studies. *Aggression and Violent Behavior*. <https://doi.org/10.1016/j.avb.2018.04.003>
- Bussey, M., & Wise, J. (Eds.) (2007). *Trauma transformed: An empowerment response*. New York: Columbia University Press.
- Caldera, Y., & Hart, S. (2004). Exposure to child care, parenting style, and attachment security. *Infant and Child Development*, 13, 21-33. <https://doi.org/10.1002/icd.329>
- Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis. *Practical Assessment, Research, and Evaluation*, 10(7), 1-9. <https://doi.org/10.7275/jyj1-4868>
- Crandall, A., Miller, J. R., Cheung, A., Novilla, L. K., Glade, R., Novilla, M. L. B., Magnusson, B. M., Leavitt, B. L., Barnes, M. D., Hanson, C. L. (2019). ACEs and counter-ACEs: How positive and negative childhood experiences influence adult health. *Child Abuse & Neglect*, 96, 1-9. <https://doi.org/10.1016/j.chiabu.2019.104089>
- Denham, S. A., & Brown, C. (2010). “Plays nice with others”: Social-emotional learning and academic success. *Early Education and Development*, 21(5), 652-680. <http://dx.doi.org/10.1080/10409289.2010.497450>
- Desir, M. P., & Karatekin, C. (2019). Characteristics of disclosing childhood victimization and risk of revictimization in young adulthood. *Journal of Interpersonal Violence* 00(0), 1-27. <https://doi.org/10.1177/0886260519889932>
- Dias, A., Sales, L., Carvalho, A., Castro-Vale, I., Kleber, R., & Cardoso, R. M. (2013). Estudo de propriedades psicométricas do Questionário de Trauma de Infância – Versão breve numa amostra portuguesa não clínica. *Laboratório de Psicologia*, 11(2), 103-120. <https://doi.org/10.14417/lp.11.2.713>
- Eizirik, M., Schestatsky, S., Knijnik, L., Terra, L., & Ceitlin, L. (2006). Contratransferência e trauma psíquico. *Revista de Psiquiatria*, 28(3), 314-320. <https://doi.org/10.1590/S0101-81082006000300010>
- Gable, S. L., & Haidt, J. (2005). What (and why) is positive psychology? *Review of General Psychology*, 9(2), 103-110. <https://doi.org/10.1037/1089-2680.9.2.103>

- Gunay-Oge, R., Pehlivan, F. Z., & Isikli, S. (2020). Validity and reliability of the Benevolent Childhood Experiences (BCEs) Scale in Turkish. *The Journal of Psychiatry and Neurological Sciences*, 33, 146-154. [10.14744/DAJPNS.2020.00074](https://doi.org/10.14744/DAJPNS.2020.00074)
- Hardaway, C. R., Larkby, C. A., & Cornelius, M. D. (2014). Socioemotional adjustment as a mediator of the association between exposure to community violence and academic performance in low-income adolescents. *Psychology of Violence*, 4(3), 281–293. <https://doi.org/10.1037/a0036375>
- Kosterman, R., Mason, A., Haggerty, K., Hawkins, D., Spoth, R., & Redmond, C. (2011). Positive childhood experiences and positive adult functioning: Prosocial continuity and the role of adolescent substance use. *Journal of Adolescent Health*, 49, 180-186. <https://dx.doi.org/10.1016/j.jadohealth.2010.11.244>
- Kosterman, R., Hawkins, D., Abbott, R., Hill, K., Herrenkohl, T., & Catalano, R. (2005). Measures of positive adult behavior and their relationship to crime and substance abuse. *Prevention Science*, 6(1), 21-33. <https://doi.org/10.1007/s11121-005-1250-0>
- Labella, M., Raby, L., Martin, J., & Roisman, G. I. (2019). Romantic functioning mediates prospective associations between childhood abuse and neglect and parenting outcomes in adulthood. *Development and Psychopathology*, 31, 95-111. <http://dx.doi.org/10.1017/S095457941800158X>
- Liu, Y., Croft, J. B., Chapman, D. P., Perry, G. S., Greenlund, K. J., Zhao, G., Edwards, V. J. (2013). Relationship between adverse childhood experiences and unemployment among adults from five US states. *Social Psychiatry and Psychiatric Epidemiology*, 48, 357-369.
- Marques-Pinto, A., Oliveira, S., Santos, A., Camacho, C., Silva, D. P., Pereira, M. S. (2019). Does our age affect the way we live? A study on savoring strategies across the life span. *Journal of Happiness Studies*. <https://doi.org/10.1007/s10902-019-00136-4>
- Merrick, J. S., Narayan, A. J., Atzl, V. M., Harris, W. W., Liberman, A. F. (2020) Type versus timing of adverse and benevolent childhood experiences for pregnant women's psychological and reproductive health. *Children and Youth Services Review*, 114, 1-11. <https://doi.org/10.1016/j.childyouth.2020.105056>
- Masten, A. S., & Cicchetti, D. (2010). Developmental cascades. *Development and Psychopathology*, 22(3), 491-495. <https://doi.org/10.1017/S0954579410000222>

- Masten, A. S., & Cicchetti, D. (2016). *Resilience in development: Progress and transformation*. In D. Cicchetti (Ed.), *Developmental psychopathology: Risk, resilience, and intervention* (p. 271–333). John Wiley & Sons, Inc.. <https://doi.org/10.1002/9781119125556.devpsy406>
- Narayan, A. J., Rivera, L. M., Bernstein, R. E., Harris, W. W., & Lieberman, A. F. (2017). Positive childhood experiences predict less psychopathology and stress in pregnant women with childhood adversity: A pilot study of the benevolent childhood experiences (BCEs) scale. *Child And Abuse Neglect*, 1-12. <https://dx.doi.org/10.1016/j.chiabu.2017.09.022>
- Park, N. (2004). The role of subjective well-being in positive youth development. *The ANNALS of the American Academy of Political and Social Science*, 591(1), 25–39. <https://doi.org/10.1177/0002716203260078>
- Peres, J., Mercante, J., & Nasello, A. (2005). Promovendo resiliência em vítimas de trauma psicológico. *Revista de Psiquiatria*, 27(2), 131-138. <https://doi.org/10.1590/S0101-81082005000200003>
- Perfect, M. M., Turley, M. R., Carlson, J. S., Yohanna, J., & Saint Gilles, M. P. (2016). School-related outcomes of traumatic event exposure and traumatic stress symptoms in students: A systematic review of research from 1990 to 2015. *School Mental Health: A Multidisciplinary Research and Practice Journal*, 8(1), 7–43. <https://doi.org/10.1007/s12310-016-9175-2>
- Poole, J. C., Dobson, K. S., & Pusch, D. (2017). Childhood adversity and adult depression: The protective role of psychological resilience. *Child Abuse and Neglect*, 64, 89-100. <https://doi.org/10.1016/j.chiabu.2016.12.012>
- Ports, K. A., Ford, D. C., Merrick, M. T. (2016). Adverse childhood experiences and sexual victimization in adulthood. *Child abuse and neglect*, 51, 313-322. <https://doi.org/10.1016/j.chiabu.2015.08.017>
- Riedl, D., Beck, T., Exenberger, S., Daniels, J., Dejaco, D., Unterberger, I., & Lampe, A. (2019). Violence from childhood to adulthood: The influence of child victimization and domestic violence on physical health in later life. *Journal of Psychosomatic Research*, 116, 68-74. <https://doi.org/10.1016/j.jpsychores.2018.11.019>
- Sege, R. D., & Browne, C. H. (2017). Responding to ACEs with HOPE: Health outcomes from positive experiences. *Academic Pediatrics*, 17(7), S79-S85. <https://doi.org/10.1016/j.acap.2017.03.007>

- Sigurdardottir, S., Halldorsdottir, S. and Bender, S.S. (2012), Deep and almost unbearable suffering: consequences of childhood sexual abuse for men's health and well-being. *Scandinavian Journal of Caring Sciences*, 26, 688-697. <https://doi.org/10.1111/j.1471-6712.2012.00981.x>
- Shields, A., Ryan, R.M., Cicchetti, D. (2001). Narrative representations of caregivers and emotion dysregulation as predictors of maltreatment children's rejection by peers. *Developmental Psychology*, 37, 321-337. <https://doi.org/10.1037//0012.1649.37.3.321>
- Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, 48, 1273-1296. <https://doi.org/10.1007/s11165-016-9602-2>
- Tekin, H. H., & Karakus, Ö. (2019). The relationship between childhood trauma, emotion regulation difficulties and marital satisfaction in pregnant adolescents. *Turkish Journal of Family Medicine and Primary Care*, 13(4), 500-507. <https://doi.org/10.21763/tjfmpe.519969>
- Theoklitou D., Kabitsis N., & Kabitsi A. (2012). Physical and emotional abuse of primary school children by teachers. *Child Abuse & Neglect*, 36(1), 64– 70. <https://doi.org/10.1016/j.chiabu.2011.05.007>
- Toth, S. L., & Cicchetti, D. (2013). A developmental psychopathology perspective on child maltreatment. *Child Maltreatment*, 18(3), 135-139. <https://doi.org/10.1177/1077559513500380>
- van Griethuijsen, R.A.L.F., van Eijck, M.W., Haste, H. (2015). Global Patterns in Students' Views of Science and Interest in Science. *Research in Science Education*, 45, 581–603. <https://doi.org/10.1007/s11165-014-9438-6>
- Vet, H. C. W., Mokkink, L. B., Mosmuller, D. G., & Terwee, C. B. (2017). Spearman-Brown prophecy formula and Cronbach's alpha: different faces of reliability and opportunities for new applications. *Journal of Clinical Epidemiology*, 85, 45-49. <http://dx.doi.org/10.1016/j.jclinepi.2017.01.013>
- Yamaoka, Y., & Bard, D. E. (2019). Positive matters in the face of early adversity. *American Journal of Preventive Medicine*, 56(4). <http://dx.doi.org/10.1016/j.amepre.2018.11.018>
- Wilkins, N., Tsao, B., Hertz, M., Davis, R., Klevens, J. (2014). Connecting the Dots: An Overview of the Links Among Multiple Forms of Violence. Atlanta, GA: National

Center for Injury Prevention and Control, Centers for Disease Control and Prevention Oakland, CA: Prevention Institute

Whiffen, V. E., & Oliver, L. (2004). The relationship between traumatic stress and marital intimacy. In D. Catherall (Ed.), *Handbook of Stress, Trauma and the Family* (pp. 137-157). New York: CRC Press. (2) (PDF) *Childhood trauma and couple relationships*.

Wishman, M. A. (2006). Childhood trauma and marital outcomes in adulthood. *Personal Relationships, 13*, 375-386.

World Medical Association. (2013). World medical association declaration of Helsinki: Ethical principles for medical research involving human subjects. *JAMA, 310*(20), 2191-2194. <http://dx.doi.org/10.1001/jama.2013.281053>

Zautra, A. J., & Reich, J. W. (1981). Positive events and quality of life. *Evaluation and Program Planning, 4*(3-4), 355-361. [https://doi.org/10.1016/0149-7189\(81\)90034-3](https://doi.org/10.1016/0149-7189(81)90034-3)

Attachments A

Table 1

BCEs items and frequencies

When you were growing up, during your first 18 years of life...

Item	Question	(n = 1886)
1	Did you have at least one caregiver with whom you felt safe?	96,5%
2	Did you have at least one good friend?	96,8%
3	Did you have beliefs that gave you comfort?	84,3%
4	Did you like school?	89,1%
5	Did you have at least one teacher who cared about you?	92,2%
6	Did you have good neighbors?	87,3%
7	Was there an adult (not a parent/caregiver or the person from #1) who could provide you with support or advice?	86,5%
8	Did you have opportunities to have a good time?	94,4%
9	Did you like yourself or feel comfortable with yourself?	74,1%
10	Did you have a predictable home routine, like regular meals and a regular bedtime?	90,4%

Table 2

Correlations between the BCEs scale and CTQ scale (n = 1886)

	1	2	3	4	5	6	7
1. BCEs total score	1	-.567**	-.54**	-.557**	-.20**	-.35**	-.41**
2. CTQ total score		1	.85**	.81**	.50**	.72**	.72**
3. CTQ emotional abuse			1	.67**	.33**	.55**	.46**
4. CTQ emocional Neglect				1	.25**	.44***	.60**
5. CTQ sexual Abuse					1	.26**	.24**
6. CTQ physical Abuse						1	.44**
7. CTQ physical Neglect							1

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

Table 3*Means, Standard Deviations, and One-Way Analyses of BCEs (n = 1886)*

Variables	BCEs		<i>F</i> (1.1884)	η^2
	<i>M</i>	<i>DP</i>		
Trauma	.86	.17	38.33	< .01
No trauma	.91	.13		
Victimization	.84	.18	47.53	< .01
No victimization	.90	.14		
Male	.89	.14	.64	< .01
Female	.89	.15		
Age 18-40	.88	.15	4.10	< .01
Age +40	.90	.15		
Until 9 th grade	.83	.19	13.18	< .01
Until 12 th grade	.87	.16		
High School	.90	.14		
Unemployed	.82	.19	7.21	< .01
Employed	.90	.14		
Retired	.89	.15		
Student	.87	.16		
Other	.86	.15		
Single	.88	.15	3.95	< .01
Married/Cohabitation	.90	.14		
Separated/Divorced	.87	.17		
Widower	.87	.17		

Table 4

Binary Logistics Regressions for Trauma in the past three years and Victimization in the past three years (Total BCE and Total CTQ) (n = 1886)

	Trauma in the past three years				Victimization in the past three years			
	<i>B</i>	<i>SE</i>	<i>Sig.</i>	<i>Exp(B)</i>	<i>B</i>	<i>SE</i>	<i>Sig.</i>	<i>Exp. B</i>
Step 1								
Age	-.010	.007	.128	.990	-.023	.009	.014	.978
Gender	-.180	.126	.155	.836	.019	.155	.902	1.019
Unemployed	-.268	.350	.444	.765	-.975	.472	.039	.377
Employed	-.148	.283	.600	.862	-.301	.417	.469	.740
Retired	-.509	.421	.227	.601	-.690	.624	.269	.501
Student	-.078	.311	.801	.925	-.570	.439	.194	.565
Until 9 th grade	-.097	.248	.694	.907	-.183	.311	.556	.832
Until 12 th grade	-.087	.112	.439	.917	.041	.141	.771	1.042
Single	.806	.565	.154	2.238	.548	.688	.426	1.730
Married/ cohabitation	1.037	.551	.060	2.822	.929	.671	.166	2.533
Separated/ divorced	.613	.564	.277	1.846	.555	.686	.419	1.742
Constant	-.629	1.416	.657	.533	.185	1.861	.921	1.203

Positive experiences and victimization in childhood and youth: Relationship with empathy in inmates and in the normative population

Step 2

Age	-.010	.007	.144	.990	-.022	.009	.017	.978
Gender	-.159	.127	.210	.853	.050	.156	.751	1.051
Unemployed	-.226	.354	.524	.798	-.925	.476	.052	.396
Employed	-.208	.286	.467	.812	-.376	.420	.370	.687
Retired	-.564	.425	.184	.569	-.739	.629	.240	.477
Student	-.115	.314	.714	.891	-.623	.442	.159	.536
Until 9 th grade	.030	.253	.904	1.031	-.020	.316	.950	.981
Until 12 th grade	-.056	.113	.620	.945	.090	.143	.526	1.095
Single	.809	.572	.157	2.246	.522	.696	.453	1.686
Married/ cohabitation	1.011	.558	.070	2.749	.874	.681	.199	2.397
Separated/ divorced	.615	.570	.281	1.849	.529	.695	.447	1.696
BCE Total	-1.587	.337	.000	.205	-1.951	.382	.000	.142
Constant	.703	1.459	.630	2.020	1.832	1.907	.337	6.245

Step 3

Age	-.012	.007	.093	.988	-.025	.009	.008	.975
Gender	-.143	.128	.264	.867	.075	.158	.632	1.078

Attachments A

Unemployed	-190	.357	.593	.827	-.866	.479	.070	.421
Employed	-.228	.287	.427	.796	-.357	.420	.396	.700
Retired	-.622	.429	.147	.537	-.765	.634	.228	.465
Student	-.200	.316	.527	.819	-.693	.444	.119	.500
Until 9 th grade	.133	.259	.607	1.142	.120	.325	.713	1.127
Until 12 th grade	-.020	.114	.861	.980	.129	.144	.370	1.138
Single	.879	.578	.128	2.409	.584	.712	.412	1.793
Married/ cohabitation	1.091	.563	.053	2.978	.940	.696	.177	2.559
Separated/ divorced	.695	.576	.228	2.003	.601	.710	.397	1.824
BCE Total	-.402	.404	.320	.669	-.633	.469	.177	.531
CTQ Total	1.075	.202	.000	2.930	1.144	.224	.000	3.141
Constant	-2.277	1.568	.147	.103	-1.473	2.041	.471	.229

Table 5

Binary Logistics Regressions for Trauma in the past three years and Victimization in the past three years (Total BCE and CTQ subscales) (n = 1886)

	Trauma in the past three years				Victimization in the past three years			
	<i>B</i>	<i>SE</i>	<i>Sig.</i>	<i>Exp(B)</i>	<i>B</i>	<i>SE</i>	<i>Sig.</i>	<i>Exp. B</i>
Step 1								
Age	-.010	.007	.128	.990	-.023	.009	.014	.978
Gender	-.180	.126	.155	.836	.019	.155	.902	1.019
Unemployed	-.268	.350	.444	.765	-.975	.472	.039	.377
Employed	-.148	.283	.600	.862	-.301	.417	.469	.740
Retired	-.509	.421	.227	.601	-.690	.624	.269	.501
Student	-.078	.311	.801	.925	-.570	.439	.194	.565
Until 9 th grade	-.097	.248	.694	.907	-.183	.311	.556	.832
Until 12 th grade	-.087	.112	.439	.917	.041	.141	.771	1.042
Single	.806	.565	.154	2.238	.548	.688	.426	1.730
Married/ cohabitation	1.037	.551	.060	2.822	.929	.671	.166	2.533
Separated/ divorced	.613	.564	.277	1.846	.555	.686	.419	1.742
Constant	-.629	1.416	.657	.533	.185	1.861	.921	1.203
Step 2								
Age	-.010	.007	.144	.990	-.022	.009	.017	.978
Gender	-.159	.127	.210	.853	.050	.156	.751	1.051
Unemployed	-.226	.354	.524	.798	-.925	.476	.052	.396
Employed	-.208	.286	.467	.812	-.376	.420	.370	.687
Retired	-.564	.425	.184	.569	-.739	.629	.240	.477
Student	-.115	.314	.714	.891	-.623	.442	.159	.536
Until 9 th grade	.030	.253	.904	1.031	-.020	.316	.950	.981
Until 12 th grade	-.056	.113	.620	.945	.090	.143	.526	1.095
Single	.809	.572	.157	2.246	.522	.696	.453	1.686

Positive experiences and victimization in childhood and youth: Relationship with empathy in inmates and in the normative population

Married/ cohabitation	1.011	.558	.070	2.749	.874	.681	.199	2.397
Separated/ divorced	.615	.570	.281	1.849	.529	.695	.447	1.696
BCE Total	-1.587	.337	.000	.205	-1.951	.382	.000	.142
Constant	.703	1.459	.630	2.020	1.832	1.907	.337	6.245
Step 3								
Age	-.010	.007	.162	.990	-.023	.010	.018	.978
Gender	-.124	.130	.342	.884	.112	.161	.487	1.118
Unemployed	-.156	.359	.664	.856	-.822	.481	.088	.440
Employed	-.199	.289	.491	.820	-.332	.423	.433	.718
Retired	-.588	.432	.174	.556	-.735	.639	.250	.479
Student	-.160	.318	.616	.853	-.656	.448	.143	.519
Until 9 th grade	.080	.261	.759	1.084	.040	.329	.904	1.041
Until 12 th grade	-.037	.115	.748	.964	.114	.145	.432	1.121
Single	.185	.179	.302	1.203	-.022	.230	.923	.978
Married/ cohabitation	.912	.579	.115	2.489	.642	.711	.367	1.900
Separated/ divorced	.401	.173	.021	1.494	.347	.235	.140	1.415
BCE Total	-.012	.042	.768	.988	-.032	.049	.514	.968
CTQ Emotional Abuse	.091	.022	.000	1.096	.102	.025	.000	1.107
CTQ Emotional Neglect	-.004	.018	.807	.996	-.010	.022	.657	.990
CTQ Sexual Abuse	-.003	.031	.928	.997	.020	.035	.574	1.020
CTQ Physical Abuse	.006	.032	.839	1.007	-.008	.035	.820	.992
CTQ Physical Neglect	.057	.029	.048	1.058	.066	.034	.054	1.068
Constant	-.541	1.143	.636	.582	.017	1.575	.922	1.017

Table 6
Descriptive Statistics for the Clusters (n = 1886)

Cluster Indicators	Cluster 1 Low BCEs (n = 108)	Cluster 2 High BCEs (n = 1308)	Cluster 3 Moderated BCEs (n = 470)	F- χ^2 or statistic	Significant Contrast
BCES	.63 (.22)	.95 (.09)	.79 (.17)	529.713	< .001
CTQ	2.67 (.31)	1.51 (.11)	1.93 (.16)	4533.106	< .001
Gender	Male = 18.5% (n = 20) Female = 81.5% (n = 88)	Male = 22.6% (n = 296) Female = 77.4% (n = 1012)	Male = 20.2% (n = 95) Female = 79.8% (n = 375)	1.906	.386
Educational level	Until 9 th grade = 16.3% (n = 16) Until 12 th grade = 31.6% (n = 31) High school = 52% (n = 51)	Until 9 th grade = 4.2% (n = 52) Until 12 th grade = 30.9% (n = 384) High school = 64.9% (n = 806)	Until 9 th grade = 5.7% (n = 25) Until 12 th grade = 37.1% (n = 162) High school = 57.2% (n = 250)	16.581	< .001
Marital status	Single = 35.2% (n = 38) Married/cohabitation = 48.1% (n = 52) Separated/divorced = 14.8% (n = 16) Widower = 1.9% (n = 2)	Single = 47.8% (n = 625) Married/cohabitation = 44.5% (n = 582) Separated/divorced = 7.1% (n = 93) Widower = 0.6% (n = 8)	Single = 47% (n = 221) Married/cohabitation = 44.3% (n = 208) Separated/divorced = 7.7% (n = 36) Widower = 0.8% (n = 5)	13.901	.031
Professional status	Unemployed = 10.2% (n = 11) Employed = 70.4% (n = 76) Retired = 4.6% (n = 5) Student = 11.1% (n = 12)	Unemployed = 3.7% (n = 48) Employed = 63.9% (n = 836) Retired = 4.3% (n = 56) Student = 25.2% (n = 329)	Unemployed = 8.7% (n = 41) Employed = 59.8% (n = 281) Retired = 4.3% (n = 20) Student = 21.3% (n = 100)	41.419	< .001
Trauma in the past three years	61.1% (n = 66)	35.8% (n = 468)	54% (n = 254)	65.006	< .001
Victimization in the past three years	34.3% (n = 37)	15.1% (n = 19)	29.1% (n = 137)	58.155	< .001

Article 2

Positive Experiences and Victimization in Youth: Relationship with Empathy in Inmates and in the Normative Population

Resumo

Enquadramento: A experiência de eventos positivos na família, com os pares, na escola e na comunidade está diretamente relacionada a características mais adaptativas na vida adulta. Por outro lado, o abuso infantil e a exposição à violência aumentam a probabilidade de problemas comportamentais. Crianças abusadas tendem a sofrer de raiva, hostilidade, impulsividade e problemas de agressão na idade adulta. Existe também uma relação entre o abuso infantil e o comportamento criminoso na idade adulta. Reclusos que vivenciaram adversidades na infância apresentam comportamentos antissociais e problemas relacionados com a baixa empatia. **Objetivos:** Este estudo visa verificar se existe relação entre experiências positivas (BCEs), trauma infantil (CTQ) e empatia (IRI) e se existem diferenças entre a população normativa e os reclusos. **Participantes:** A amostra total é composta por 244 participantes com idades entre 18 e 73 anos ($M = 35,61$, $DP = 11,565$). Os 123 participantes pertencentes à população normativa têm idades entre 18 e 67 anos ($M = 34,28$, $DP = 11,90$), sendo 100 do sexo feminino e 23 do sexo masculino. Os 119 reclusos com idades compreendidas entre os 18 e os 73 anos ($M = 36,97$, $DP = 11,09$), são todos do sexo masculino. **Método:** A amostra respondeu a um protocolo composto por um questionário sociodemográfico, o BCEs, o CTQ e o IRI. **Resultados:** Os resultados das duas amostras mostram diferenças estatisticamente significativas negativas entre o BCEs e o CTQ e diferenças significativas positivas entre o CTQ e o IRI. **Conclusão:** Em ambas as amostras, é possível verificar que as escassas experiências positivas de vida estão relacionadas aos traumas infantis. Na amostra de reclusos tanto as experiências positivas da infância como os traumas infantis estão relacionados a altos níveis de empatia na idade adulta.

Palavras-chave: Experiências benevolentes da infância, Trauma infantil, Empatia

Abstract

Background: The experience of positive events in the family, with peers, at school, and in the community is directly related to more adaptive characteristics in adult life. On the other hand, child abuse and exposure to violence increase the likelihood of behavioral problems. Abused children tend to suffer from anger, hostility, impulsiveness, and aggression problems in adulthood. There is also a relationship between child abuse and criminal behavior in adulthood. Inmates who experienced adversity in childhood have antisocial behaviors and problems related to low empathy. **Objectives:** This study aims to verify if there is a relationship between positive experiences (BCEs), child trauma (CTQ), and empathy (IRI) and if there are differences between the normative population and prisoners. **Participants:** The total sample consists of 244 participants aged between 18 and 73 years old ($M = 35.61$, $SD = 11.565$). The 123 participants belonging to the normative population are between 18 and 67 years old ($M = 34.28$, $SD = 11.90$), 100 of whom are female and 23 are male. The 119 prisoners aged between 18 and 73 years old ($M = 36.97$, $SD = 11.09$), are all male. **Method:** The sample responded to a protocol composed of a sociodemographic questionnaire, the BCEs, CTQ, and IRI. **Results:** The results of the two samples show statistically significant negative differences between the BCEs and CTQ and significant positive differences between CTQ and IRI. **Conclusion:** In both samples, it is possible to verify that the few positive life experiences are related to childhood trauma. In the sample of inmates both positive childhood experiences and childhood trauma are related to high levels of empathy in adulthood.

Keywords: Benevolent childhood experiences, Childhood trauma, Empathy

Introduction

The experience of positive events in family, peer, school, and community can impact the positive development of young people (Park, 2004) and are directly related to more adaptive characteristics in adulthood (Johnson, Bromley, & McGeoch, 2005). Positive development depends on secure attachment during the first years of life (Rees, 2007). When attachment relationships exist, children tend to develop patterns of how to experience strategies for experiencing and regulating their emotions. Social and emotional experiences with primary caregivers, or interactions with other children and adults early in life, can influence both personal and academic life, becoming support for several areas of child development (Denham & Brown, 2010). In this way, emotions also play an important role in guiding behavior and contributing to the child's general well-being (Obeldobel & Kerns, 2019).

A study by Hillis et al. (2010) revealed that positive childhood experiences such as closeness, support, loyalty, protection, love, importance, and the ability to respond to health needs are associated with low pregnancy rates in adolescence. Moffitt et al. (2012), also found that children with high self-control became healthier adults, less likely to consume substances, with better wages and less financial problems, and with fewer convictions for crimes. On the other side, child abuse, and exposure to violence (Wang et al., 2012), increases the likelihood of behavioral problems, both on a psychological and physical level (Shen, 2009). For this reason, some of the abused children suffer from anger, hostility (Wang et al., 2012), impulsiveness, and problems of aggression in adulthood (Teixeira, Lasiuk, Barton, Fernandes & Gherardi-Donato, 2017). Thus, there is a relationship between child abuse and criminal behavior in adulthood (Altintas & Bilici 2018; Gilbert et al., 2009).

Adults who suffered abuse during childhood may need to demonstrate, in adulthood, what they felt (Wang et al., 2012). Studies show that a large prevalence of individuals involved in the justice system report having experienced child abuse (Altintas & Bilici 2018; Wang, et al. 2012). Some studies also show that inmates experience more physical and sexual abuse in childhood than the normative population (Maschi, Gibson, Zgoba & Morgen, 2011; Messina, Grella, Burdon & Prendergast, 2007; Weeks & Widom, 1998). Individuals detained for violent crime tend to report having experienced more physical abuse in childhood (Wang, et al., 2012; Widom & Maxfield, 2001). A study carried out with inmates who experienced adversity in

childhood found that these individuals had antisocial behaviors and problems related to low empathy (Schimmenti, 2016). Low childhood empathy is associated with growth in adverse environments (Quas Dickerson, Matthew, Harron, & Quas, 2017) and experiences of various types of abuse (Dargis, Newman & Koenigs 2016), leading to greater difficulty in understanding the point of view of others (Greenberg, Baron-Cohen, Rosenberg, Fonagy & Rentfrow, 2018; Manly, Kim, Rogosch & Cicchetti, 2001).

During childhood, empathy is developed within the family, the child's primary means of development (Hoffman, 2000). It is therefore very important for a child to be able to perceive physical, social, or emotional situations other than his own (Griffin-Shirley & Nes, 2005). High levels of empathy are associated with prosocial behavior throughout life, making individuals more able to share resources and to help and care for others (Baron-Cohen & Wheelwright, 2004; Berger, Batanova, & Cance, 2015). A study by Allemand et al. (2015) showed that adolescents with high empathy tend to maintain it in adulthood, using more constructive communication skills in conflict situations in their relationships. Adults who show more empathy are more willing to volunteer (Davis et al., 1999), make more donations (Wilhelm & Bekkers, 2010), and are more grateful to others (McCullough, Emmons, & Tsang, 2002). Thus, empathy allows individuals to relate to each other to promote cooperative, prosocial, and satisfactory relationships, instead of using conflicting, antisocial, and unpleasant interactions with others (Allemand, et al., 2015). Therefore, empathy is composed of affective and cognitive components (Baron-Cohen & Wheelwright, 2004) that can be developed throughout life (Davis, 1996) and when empathy is present, it can make society safe and gentle (Greenberg & Turksma, 2015).

Gini et al. (2007) demonstrated that low empathy has adverse effects as it makes interactions and social relationships more difficult, as individuals with low empathy tend to show more aggressive and violent behaviors and more conflicts with others. These individuals do not understand the possible damage and consequences they can cause. Thus, as mentioned above, low empathy is related to antisocial behaviors (Allemand, et al. 2015).

This study aims to verify: a) in the total sample if there is a relationship between positive experiences (BCEs), traumatic experiences (CTQ), and empathy (IRI); b) if in the sample of individuals who committed crimes, there is a relationship between the commission of crimes and the traumatic experiences of victimization experienced in

childhood; c) if there are differences, in a sample of the normative population and in a sample of the inmates, in positive experiences, in the traumatic experiences of victimization lived in childhood, and in the levels of empathy in adulthood; d) whether the positive experiences and the traumatic experiences of victimization experienced in childhood predict empathy; e) whether the positive experiences experienced in childhood have an impact on the type of crimes committed; and f) whether reclusion predicts empathy.

Method

Sample

The total sample consists of 244 participants aged between 18 and 73 years old ($M = 35.61$, $SD = 11.565$). Of the 244 participants, 123 belong to the normative population and 119 to the prison population. The 123 participants belonging to the normative population are aged between 18 and 67 years old ($M = 34.28$, $DP = 11.902$), with 100 being female and 23 males. Of these 123 participants, 65 are single (52.8%), 46 are married or living in cohabitation (37.4%), and 12 are separated or divorced (9.8%). Regarding the academic qualifications, two studied up to the 9th grade (1.6%), 43 up to the 12th grade (35%), 72 followed higher education (58.5%), and six have other qualifications (4.9%). Regarding the professional situation, 22 are students (9%), 90 are employed (36.9%), five are unemployed (2%), and four are retired (1.6%).

The 119 inmates aged between 18 and 73 years old ($M = 36.97$, $DP = 11.090$), are all male. Regarding marital status, 61 are single (50.4%), 44 are married or living in a de facto relationship (36.4%), 10 are separated or divorced (8.3%) and three are widowers (2.5%). Concerning educational qualifications, 107 inmates studied up to the 9th grade (88.4%), and 13 up to the 12th grade (10.7%). At the time of the arrest, nine inmates were students (3.7%), 76 were employed (31.1%), 30 were unemployed (12.3%), two were retired (.8%), and one was in another professional situation (.4%). Regarding the crimes committed, 29 (24%) individuals were arrested for drug trafficking, 14 (11.6%) for assault, 10 (8.3%) for theft, 9 (7.4%) for homicide, 9 (7.4%) for domestic violence, 7 (5.8%) for child sexual abuse, 5 (4.1%) for fraud, 4 (3.3%) for attempted murder, 4 (3.3%) for aggression, 4 (3.3%) for driving without legal clearance, 3 (2.5%) for rape, 3 (2.5%) for possession of an illegal weapon, 3 (2.5%) for driving under the influence of alcohol, 1 (.8%) kidnapping, 1 (.8%) arms trafficking, 1 (.8%) for fraud, 1 (.8%) for fire and, finally, 1 (.8%) for disobedience.

Measures

Sociodemographic questionnaire. A sociodemographic questionnaire was used, consisting of the variables: age, sex, educational qualifications, professional status, and marital status. We also include the question: “Has suffered some type of trauma in the past three years? (persecuted, divorced, physically assaulted, sexually assaulted, theft/assault, housing damaged by natural causes, serious injuries, spontaneous abortion, other trauma)”. Questions were also added to the prison population, such as: “What crime are you serving a sentence for?”, and "Have you been convicted of any crime in the past?".

Benevolent Childhood Experiences Scale (BCEs: Narayan et al., 2017): This scale was built to evaluate the presence of experiences and resources positives experienced between 0 and 18 years. Is composed of 10 items that must be answered in a dichotomous manner, with "Yes" or "No", and aimed to identify relational and internal safety and security, positive and predictable quality of life, and interpersonal support. In our study, de BCEs presented an acceptable Cronbach's alpha of .66.

Childhood Trauma Questionnaire (CTQ; Bernstein et al., 2003; Dias et al., 2013). CTQ was developed to assess the existence of traumatic experiences of abuse in childhood. The instrument consists of 28 items, answered according to a Likert scale of 5 points (e.g., "Never true", "Rarely true", "Sometimes true", "Often true" and "Very often true"). CTQ is composed of five subscales representing different types of maltreatment: emotional abuse, physical abuse, sexual abuse, physical neglect, and emotional neglect. In this study was used the Dias et al. (2003) adapted for the Portuguese population. The Portuguese version had a Cronbach's alpha of 0.84, and the subscales: emotional abuse ($\alpha = .71$), physical abuse ($\alpha = .77$), sexual abuse ($\alpha = .71$), physical neglect ($\alpha = .47$) and emotional neglect ($\alpha = .79$). In our study the alphas of the CTQ ($\alpha = .82$) are good or acceptable for the subscales: emotional abuse ($\alpha = .85$); emotional neglect ($\alpha = .87$); sexual abuse ($\alpha = .81$); physical abuse ($\alpha = .89$); physical negligence ($\alpha = .58$).

Interpersonal Reactivity Index (IRI: Limpo, Alves, & Catro, 2010). The instrument used to assess empathy is the Portuguese version of the Interpersonal Reactivity Index (Davis, 1980), the Interpersonal Reactivity Survey (IRI) translated by Limpo, Alves,

and Castro (2010). This instrument is composed of 24 items that must be answered on a Likert-type scale ranging from 0 "Does not describe me well" to 4 "Describes me very well". These items are divided into four subscales: perspective taking ($\alpha = .74$), empathic concern ($\alpha = .77$), personal distress ($\alpha = .81$) and fantasy ($\alpha = .83$). In our study the alphas of the IRI ($\alpha = .70$) are acceptable for the subscales: perspective taking ($\alpha = .69$), empathic concern ($\alpha = .58$), personal distress ($\alpha = .60$) and fantasy ($\alpha = .74$).

Procedure

This study was conducted online, with a sample of the normative population, and in-person with a sample of Portuguese inmates. We launched an online questionnaire for the normative population and contacted some prisons. We scheduled meetings with the directors of those establishments to explain the study. We went to prisons to collect data from inmates who gave their consent. Information on the objectives and procedures of the study was on the first page of the protocol, stating that it would be confidential. Both in the online questionnaire and in person, informed consent was presented to the participants. After collecting the data, a database was built where all the participants' responses were inserted. These data were analyzed to meet the stipulated objectives. The study was conducted by the ethical principles outlined in the Declaration of Helsinki (World Medical Association, 2013) and the protocol was approved by the Institutional Review Board.

Data Analysis

Statistical Package for Social Sciences (SPSS; IBM SPSS Statistics. Version 26.0, Armonk, NY: IBM Corp.) was used to perform the statistical analyzes. Through SPSS, a database was created and recorded where age was divided through a study of quartiles, and groups were created for the marital status, education level, and professional situation. To study the association between benevolent experiences in childhood (BCEs), childhood trauma (CTQ), and empathy in adults (IRI) a correlation analysis was used, applying Pearson's correlation coefficients. The One-Way ANOVA was carried out to verify the differences between the groups concerning the scores obtained in the BCEs, CTQ, and IRI. Multiple linear regression was also performed to verify whether positive experiences (BCEs) and infantile trauma (CTQ) predict empathy in adulthood.

Results

Descriptive Statistics

Concerning the normative population and the experience of positive childhood experiences, the scores show a mean score of 9.00 ($SD = 1.51$). Regarding the experience of trauma in childhood the total score showed a mean of 46.66 ($SD = 8.90$), the most frequent factor was emotional neglect ($M = 9.64, SD = 4.46$), followed by emotional abuse ($M = 7.97, SD = 3.86$), physical neglect ($M = 6.73, SD = 2.31$), physical abuse ($M = 5.70, SD = 1.84$), and sexual abuse ($M = 5.51, SD = 1.75$). Regarding empathy in adulthood, empathic concern is the factor more described by the participants ($M = 18.65, SD = 4.07$) and then perspective ($M = 16.93, SD = 4.06$), fantasy ($M = 13.42, SD = 5.76$). and personal discomfort ($M = 9.25, SD = 4.01$).

In the inmate's sample and regarding to the experience of positive childhood experiences, the scores show a mean score of 8.56 ($SD = .10$). Regarding the experience of trauma in childhood, emotional neglect was the factor with the highest score ($M = 10.00, SD = 5.29$), followed by emotional abuse ($M = 8.64, SD = 4.39$), physical neglect ($M = 8.03, SD = 3.69$), physical abuse ($M = 7.92, SD = 4.45$), and sexual abuse ($M = 5.86, SD = 2.29$). With regard to empathy in adulthood, the most pointed factor was empathic concern ($M = 17.65, SD = 3.68$), followed by perspective ($M = 16.41, SD = 4.12$), fantasy ($M = 12.92, SD = 4.50$) and, personal discomfort ($M = 9.67, SD = 4.73$).

Correlation Analysis

To study the association between positive childhood experiences (BCEs), childhood trauma (CTQ), and empathy (IRI) a correlation analysis is used, applying Pearson's correlation coefficients. Correlation analysis was also used to verify the association between age and positive childhood experiences (BCEs), childhood trauma (CTQ), and empathy (IRI).

Table 1 shows the analysis carried out in the normative population. The results show statistically significant negative differences between the total score of the BCEs and the total of the CTQ ($r = -.67, p < .00$) and also some subscales: emotional abuse ($r = -.65, p < .00$), emotional neglect ($r = -.57, p < .00$), physical abuse ($r = -.61, p < .00$), and physical neglect ($r = -.48, p < .00$). There are also statistically significant differences between the CTQ emotional neglect subscale and the IRI perspective

subscale ($r = -.20, p < .00$). The sexual abuse subscale of the CTQ also has statistically significant differences from the total IRI ($r = .26, p < .00$) and the subscales of empathic concern ($r = .18, p < .00$) and fantasy ($r = .18, p < .00$).

Insert Table 1 here

Table 2 shows the analysis carried out in the inmates' sample. The results show that there are statistically significant and negative differences between the BCEs total score and all CTQ results: total score ($r = -.61, p < .00$), emotional abuse ($r = -.58, p < .00$), emotional neglect ($r = -.60, p < .00$), sexual abuse ($r = -.30, p < .00$), physical abuse ($r = -.52, p < .00$) and physical neglect ($r = -.46, p < .00$). The results also identify statistically significant differences between the CTQ physical neglect subscale and the IRI personal discomfort subscale ($r = .18, p < .00$). There are no statistically significant results with regarding the practice of crimes and the experience of trauma in childhood.

Insert Table 2 here

Table 3 shows the correlations between age and the concepts already mentioned in the normative population. The results show that there are statistically significant and positive differences between age and CTQ physical neglect ($r = .23, p < .00$) and IRI empathetic concern ($r = .20, p < .00$). The results also showed that there are statistically significant and negative differences between age and fantasy IRI ($r = -.18, p < .00$). The inmate population did not show significant statistical results.

Group Comparison Analysis

To check the differences between the groups concerning the BCEs, CTQ, and IRI, we used One-Way Anova. Regarding the normative population and the BCEs, concerning the professional situation, there are statistically significant differences in the total scale of the BCEs [$F(3,11) = 4.92, p = .00$]. Tukey's posthoc test identified that students ($M = .92, SD = .11$) have higher scores than unemployed and retired people, on the full scale.

Concerning the normative population and the CTQ, male show higher scores in the emotional neglect subscale ($M = 2.29, SD = 1.07$), [$F(1,12) = 4.94, p = .03$]. Regarding age, there are statistically significant differences in individuals over 40 in the total CTQ scale ($M = 1.7, SD = .422$), [$F(1,121) = 4.51, p = .04$] and in the physical

abuse subscales ($M = 1.24, SD = .56$), [$F(1.12) = 4.90, p = .03$], and physical neglect ($M = 1.51, SD = .59$), [$F(1.12) = 7.81, p = .01$]. About the marital status of the normative population, there are statistically significant differences in the physical abuse subscale [$F(2.12) = 5.59, p = .01$]. Tukey's posthoc test identified that separated individuals ($M = 1.45, SD = .76$) have higher values than single and married people. In the educational qualifications of the normative population there are also statistically significant differences in the subscale emotional neglect [$F(3.11) = 3.32, p = .02$], and physical neglect [$F(3.11) = 3.26, p = .02$]. Tukey's posthoc test identified that in the subsection emotional neglect, individuals with other qualifications ($M = 2.93, SD = 1.05$) have higher values than those who studied up to the 12th year and those who attended higher education. In the physical neglect, subscale is individuals who attended school up to the 9th grade ($M = 2.30, SD = .14$) who have higher values than those who attended up to the 12th grade and those who attended higher education.

Regarding to the professional situation of the normative population, there are statistically significant differences in the subscales emotional neglect [$F(3.11) = 4.22, p = .01$] and physical neglect [$F(3.11) = 3.16, p = .03$]. Tukey's posthoc shows that the unemployed ($M = 2.92, SD = 1.12$) has higher scores than students and employees in the subscale emotional neglect. In the subscale physical neglect, retired participants ($M = 2.00, SD = .83$) have higher values than students and employees.

Regarding the IRI, individuals in the normative population over 40 have higher scores in the concern subscale ($M = 3.30, SD = .59$), [$F(1.12) = 5.08, p = .03$]. In the personal discomfort subscale ($M = 2.16, SD = .75$), [$F(1.11) = 8.74, p = .00$] it is the inmates aged between 18 and 40 who have higher scores. Inmates over 40 years old only have higher scores in the total of the BCEs ($M = .91, SD = .15$), [$F(1.11) = 6.44, p = .01$], and in the subscale quality of life ($M = .92, SD = .17$), [$F(1.11) = 8.81, p = .00$].

Predictive Validity

To verify whether positive childhood experiences and negative childhood experiences predict empathy, multiple linear regression was used for each of the samples. Only the analysis carried out with the inmate's sample resulted in a statistically significant model [$F(2.11) = 4.28 = p = .02; R^2 = .06$]. Thus, the experience of positive childhood experiences ($\beta = .23, t = 2.86, p = .00$) and the experience of negative childhood experiences ($\beta = .22, t = 2.71, p = .00$) are predictors

of empathy in the inmate's sample. An analysis was also carried out to verify whether the seclusion predicted empathy, however, the results were not statistically significant.

Discussion

This study aimed to verify: a) in the total sample if there was a relationship between positive experiences (BCEs), traumatic experiences (CTQ), and empathy (IRI); b) whether, in the sample of individuals who committed crimes, there was a relationship between the practice of crimes and the traumatic experiences of victimization experienced in childhood; c) if there were differences, in a sample of the normative population and in a sample of inmates, in positive experiences, in the traumatic experiences of victimization lived in childhood and in the levels of empathy in adult life; d) whether the positive experiences and the traumatic experiences of victimization experienced in childhood predicted empathy; e) if the positive experiences lived in childhood had an impact on the type of crimes committed, and g) whether the seclusion predicted empathy.

The normative population verified the results that we will report next. The positive experiences were negatively related to infantile and/or juvenile trauma. These results, which demonstrate that low positive experiences are related to childhood trauma, are in line with several studies (Bethell, Jones, Gombojav, Linkenbach & Sege, 2019; Merrick, Narayan, DePasquale & Masten 2019). Sexual abuse in childhood was related to empathy in adulthood, namely with empathic concern and fantasy. Studies show that experiencing trauma in childhood can increase attention to emotions. This increase can improve the ability to recognize, understand, and respond appropriately to emotions in other people (Brockhouse, Msefti, Cohen, & Joseph, 2011). Greenberg et al. (2018) corroborate these results, saying that those who experienced a traumatic event in childhood, tend to show more empathic concern in adulthood.

Our results showed that in the normative population, as age increases, physical neglect in childhood also increases. A study carried out with institutionalized young people victims revealed that all of them would have been taken away from their family for suffering from physical negligence (Manso, Barona, Alonso, Romero, & Merino, 2016). The empathic concern in adulthood also increases with age. These results are in line with a study carried out in 63 countries, where it was found that part of the older participants had a more empathic concern (Chopik, O'Brein, & Konrath, 2017). Still in this context, in our study, we found that the ability to put themselves in fictitious

situations tends to decrease with age. These results do not match those already described in the literature, as studies show that the affective dimension of empathy tends to increase with age (Seider, Shiota, Whalen, & Levenson, 2011; Chen, Lv, & Lu, 2018).

In our study, participants with other qualifications and the unemployed showed more emotional neglect, and those who finished 9th grade and retirees showed more physical neglect. Studies indicate that the relationship with caregivers and interactions with other adults during childhood/youth influence academic performance (Denham & Brown, 2010). In addition, Liu et al. (2013) found that traumas are associated with unemployment, both in men and women. This can be explained because trauma impairs cognitive skills, causing less educational achievement and more social isolation (Bonden, Horwood, & Fergusson, 2007).

Separated participants also showed more physical abuse when compared to the married. Studies show that mistreatment can negatively influence the self (Finkelhor, Ormod, & Turner, 2007) and when the self is impaired, self-awareness and self-esteem are also affected, which can influence relationships (Braithwaite & Half-Lunstad, 2017). A study by Wishman (2006) shows that separated individuals have more traumatic childhood experiences, such as physical and sexual abuse. Also, Cederbaum et al. (2020) concluded that child abuse is associated with less positive relationships in adulthood.

In the prison population, low positive life experiences were related to the greater experience of child and/or youth trauma. Positive life experiences, such as caring for parents, positive relationships with other close adults, effective schooling, and living in a safe neighborhood, make child development more favorable (Masten, 2014). The lack of these experiences throughout childhood and youth can be harmful. Thus, adverse experiences, such as family dysfunction, separation/divorce from parents, the seclusion of a family member, low income, mental illness, substance abuse, and domestic violence are factors that lead to mental health and poor physics and negative behaviors (Wade, Shea, Rubin, & Wood, 2014; Shonkoff, 2012). This means that child trauma influences mental health and aggressive behavior in adulthood (Wolff, & Shi, 2012). However, the trajectories that range from childhood trauma to reclusion are poorly investigated with regard to adverse childhood experiences and their psychopathological effects (Ardino, 2012; Karatzias, et al., 2017).

Physical negligence has also been shown to be related to personal discomfort. These results are in line with a study that states that physical neglect experienced in childhood is related to discomfort in adulthood (Mersky, Lee, and Gilbert, 2019). According to Rehan et al. (2017), severe experiences of emotional and physical abuse and physical neglect in childhood increase the likelihood of anxiety in adulthood.

Positive life experiences and infantile trauma predict empathy in adulthood. These results are in line with some studies that have shown that children who have experienced child trauma demonstrate a greater capacity to understand each other and, consequently, more empathy (Crandall et al., 2019). Greenberg and colleagues (2018) also argue that anyone who experiences a traumatic event in childhood tends to be more empathic in adulthood.

Limitations

This study has some limitations, which affect the generalization of the results. The availability of the protocol in online format has some limitations, as only those who have access to the Internet can respond to the protocol. The fact that there were two separate data collections, may also be a limitation for the study since with the sample collected online, it is not possible to clarify doubts to the participants. The characteristics of the sample, namely, the prevalence of women in the normative sample and the sample of prisoners being entirely male, unbalanced the data. The discrepancy between the participants in the two compared groups is also a limitation since most of the sample belongs to the normative population. Finally, the small number of both groups means that the samples are not representative of the Portuguese population. Thus, it is recommended that future studies have homogeneity in the sample, controlling the number of participants from the normative and intern population, and also between men and women.

Conclusion

Despite the limitations, this is a pioneering study that assesses the existence of positive experiences and trauma in childhood among the inmates and that compares these concepts between two samples of the Portuguese population. This study also allowed us to verify that there is a relationship between positive experiences and traumatic experiences in childhood and empathy in adulthood. In both samples, it is possible to verify that the few positive life experiences are related to childhood trauma.

In the inmate's sample we also found that both positive childhood experiences and childhood trauma are related to high levels of empathy in adulthood. In addition, our study represents a major contribution to forensic psychology and is pertinent because it emphasizes the importance of early intervention, promoting positive life experiences, in order to prevent and reduce the consequences of victimization. Also causing a decrease in the experience of trauma and victimization in adulthood.

References

- Allemand, M., Steiger, A. E., Fend, H. A. (2015). Empathy development in adolescence predicts social competencies in adulthood. *Journal of Personality, 83*(2).
<https://doi.org/10.1111/jopy.12098>
- Altintas, M., & Bilici, M. (2018). Evaluation of childhood trauma with respect to criminal behavior, dissociative experiences, adverse family experiences and psychiatric backgrounds among prison inmates. *Comprehensive Psychiatry, 82*, 100-107. <https://doi.org/10.1016/j.comppsy.2017.12.006>
- Alwall, N., Johansson, D., & Hansen, S. (2010). The gender difference in gaze-cueing: Associations with empathizing and systemizing. *Personality and Individual Differences, 49*(7), 729–732. <https://doi.org/10.1016/j.paid.2010.06.016>
- Ardino V. (2012). Offending behavior: the role of trauma and PTSD. *European journal of psychotraumatology, 3*, 10.3402/ejpt.v3i0.18968.
<https://doi.org/10.3402/ejpt.v3i0.18968>
- Baron-Cohen, S., & Wheelwright, S. (2004). The empathy quotient: Na investigation of adults with Asperger syndrome or high functioning autism, and normal sex differences. *Journal of Autism and Developmental Disorders*.
<http://dx.doi.org/10.1023/B:JADD.0000022607.19833.00>
- Berger, C., Batanova, M., & Cance, J. D. (2015). Aggressive and prosocial? Examining latent profiles of behavior, social status, Machiavellianism, and empathy. *Journal of Youth and Adolescence, 44*, 2230-2244. <https://doi.org/10.1007/s10964-015-0298-9>
- Boden, J. M., Horwood, L. J., Fergusson, D. M. (2007). Exposure to childhood sexual and physical abuse and subsequent educational achievement outcomes. *Child Abuse and Neglect, 31*, 1101-1114.
- Braithwaite, S., & Holt-Lunstad, J. (2017). Romantic relationships and mental health. *Current Opinion in Psychology, 13*, 120–125.
- Brockhouse, R., Msefti, R.M., Cohen, K., & Joseph, S. (2011). Vicarious exposure to trauma and growth in therapists: The moderating effects of sense of coherence, organizational support, and empathy. *Journal of Traumatic Stress, 24*(6), 735-742.
<http://dx.doi.org/10.1002/jts.20704>
- Cassidy, J. (1994). Emotion regulation: Influences of attachment relationships. *Monographs Ofthe Society for Research in Child Development, 59*(2–3), 228–249.

- Cederbaum, J. A., Negriff, S., & Molina, A. P. (2020). Child maltreatment and romantic relationships in adolescence and young adulthood: The mediating role of self-perception. *Child Abuse and Neglect, 109*, 1-10.
<https://doi.org/10.1016/j.chiabu.2020.104718>
- Chen, W., Feng, H., Lv, C., Lu, J. (2018). Relationships between empathy, gender, and testosterone levels in older adults. *Social Behavior and Personality, 46*(11), 1895-1908. <https://doi.org/10.2224/sbp.6884>
- Chopik, W. J., O'Brein, E., & Konrath, S. H. (2017). Differences in empathic concern and perspective taking across 63 countries. *Journal of Cross-Cultural Psychology, 48*(1), 23-38. <https://doi.org/10.1177/0022022116673910>
- Crandall, A., Miller, J. R., Cheung, A., Novilla, L. K., Glade, R., Novilla, M. L. B., Magnusson, B. M., Leavitt, B. L., Barnes, M. D., Hanson, C. L. (2019). ACEs and counter-ACEs: How positive and negative childhood experiences influence adult health. *Child Abuse & Neglect, 96*, 1-9.
<https://doi.org/10.1016/j.chiabu.2019.104089>
- Dargis, M., Newman, J., & Koenigs, M. (2016). Clarifying the link between childhood abuse history and psychopathic traits in adult criminal offenders. *Personality Disorders: Theory, Research, and Treatment, 7*(3), 221.
<http://dx.doi.org/10.1037/per0000147>
- Davis, M. H. (1996). *Empathy: A social psychological approach*. Boulder, CO: Westview. <http://dx.doi.org/10.4324/9780429493898>
- Decety, J., & Jackson, P. L. (2004). The functional architecture of human empathy. *Behavioral and Cognitive Neuroscience Reviews, 3*, 71-100.
<http://dx.doi.org/10.1177/1534582304267187>
- Denham, S. A., & Brown, C. (2010). Plays nice with others: Social-emotional learning and academic success. *Early Education & Development, 21*, 652–680
- Dias, A., Sales, L., Carvalho, A., Castro-Vale, I., Kleber, R., & Cardoso, R. M. (2013). Estudo de propriedades psicométricas do Questionário de Trauma de Infância – Versão breve numa amostra portuguesa não clínica. *Laboratório de Psicologia, 11*(2), 103-120. <http://dx.doi.org/10.14417/lp.11.2.713>
- Finkelhor, D., Ormrod, R. K., & Turner, H. A. (2007). Polyvictimization and trauma in a national longitudinal cohort. *Development and Psychopathology, 19*(1), 149–166.
<https://doi.org/10.1017/S0954579407070083>

- 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, 68-81. [https://doi.org/10.1016/S0140-6736\(08\)61706-7](https://doi.org/10.1016/S0140-6736(08)61706-7)
- Gini, G., Albiero, P., Altoè G. (2007). Does empathy predict adolescents' bullying and defending behavior? *Aggressive behavior*, 33(5). <https://doi.org/10.1002/ab.20204>
- Greenberg, M. T., & Turksma, C. (2015). Understanding and watering the seeds of compassion. *Research in Human Development*, 12(3-4), 280–287. <https://doi.org/10.1080/15427609.2015.1068060>
- Greenberg, D.M., Baron-Cohen, S., Rosenberg, N., Fonagy, P., & Rentfrow, J. (2018). Elevated empathy in adults following childhood trauma. *PLoS ONE*, 13(10). <http://dx.doi.org/10.1371/journal.pone.0203886>
- Griffin-Shirley, N., & Nes, S. (2005). Self-esteem and empathy in sighted and visually impaired preadolescents. *Journal of Visual Impairment & Blindness*, 99, 276-284.
- Hillis S. D., Anda R. F., Dube S. R., Felitti, V. J., Marchbanks, P. A., Macaluso, M., & Marks, J. S. (2010). The protective effect of family strengths in childhood against adolescent pregnancy and its long-term psychosocial consequences *The Permanente Journal*, 14(3), 18- 27. <http://dx.doi.org/10.7812/tpp/10-028>
- Hoffman, M., L. (2000). *Empathy and moral development: Implications for caring and justice*. New York: Cambridge University Press.
- Ickes, W., Gesn, P. R., & Graham, T. (2000). Gender differences in empathic accuracy: Differential ability or differential motivation? *Personal Relationships*, 7(1), 95–109. <https://doi.org/10.1111/j.1475-6811.2000.tb00006.x>
- Johnson, J. G., Bromley, E., & McGeoch, P. G. (2005). *Role of Childhood Experiences in the Development of Maladaptive and Adaptive Personality Traits*. In J. M. Oldham, A. E. Skodol, & D. S. Bender (Eds.), *The American Psychiatric Publishing textbook of personality disorders* (p. 209–221). American Psychiatric Publishing, Inc.
- Karatzias T., Power K., Woolston C., Apurva P., Begley A., Quinn, C., Jowett, S., Howard, R., & Purdie, A. (2017). Multiple traumatic experiences, post-traumatic stress disorder, and offending behaviour in female prisoners. *Criminal Behaviour and Mental Health*. <https://doi.org/10.1002/cbm.2043>
- Limpo, T., Alves, R. A., & Catro, S. L. (2010). Medir a empatia: Adaptação portuguesa do Índice de Reactividade Interpessoal. *Laboratório de Psicologia*, 8(2), 171-184. <http://dx.doi.org/10.14417/lp.640>

- Liu, Y., Croft, J. B., Chapman, D. P., Perry, G. S., Greenlund, K. J., Zhao, G., Edwards, V. J., (2013). Relationship between adverse childhood experiences and unemployment among adults from US states. *Social Psychiatry Psychiatric Epidemiology*, 48, 357-369. <http://dx.doi.org/10.1007/s00127-012-0554-1>
- Manly, J. T., Kim, J. E., Rogosch, F. A., & Cicchetti, D. (2001). Dimensions of child maltreatment and children's adjustment: Contributions of developmental timing and subtype. *Development and Psychopathology*, 13(4), 759-782.
- Maschi, T., Gibson, S., Zgoba, K. M., & Morgan, K. (2011). Trauma and life event stressors among young and older adult prisoners. *Journal of Correctional Health*, 17(2), 160-172.
- Manso, J. M. M., Baamond, M. E. G., Barona, E. G., Alonso, M. B., Romero, J. M. P., Merino, M. J. G., (2016). Psychosocial adaption of young victims of physical neglect. *Child Abuse Review*, 26, 364-374. <https://doi.org/10.1002/car.242>
- Masten, A. S., (2014). Global perspectives on resilience in children and youth. *Child Development*, 85(1), 6-20. <https://doi.org/10.1111/cdev.1220>
- McCullough, M. E., Emmons, R. A., & Tsang, J.-A. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology*, 82(1), 112–127. <https://doi.org/10.1037/0022-3514.82.1.112>
- Mersky, J. P., Lee, C. P., & Gilbert R. M. (2019). Client and provider discomfort with an adverse childhood experiences survey. *American Journal of Preventive Medicine*, 57(2), 52-58.
- Messina, N., Grella, C., Burdon, W., & Prendergast, M. (2007). Childhood adverse events and current traumatic distress: A comparison of men and women drug-dependent prisoners. *Criminal Justice and Behavior*, 34(11), 1385–1401. <https://doi.org/10.1177/0093854807305150>
- Moffitt, T. E., Arseneault, L., Belsky, D., Dickson, N., Hancox, R. J., Harrington, H., & Caspi, A. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences of the United States of America*, 108(7), 2693–2698. <http://dx.doi.org/doi:10.1073>
- Narayan, A. J., Rivera, L. M., Bernstein, R. E., Harris, W. W., & Lieberman, A. F. (2017). Positive childhood experiences predict less psychopathology and stress in pregnant women with childhood adversity: A pilot study of the benevolent childhood experiences (BCEs) scale. *Child and Abuse Neglect*, 1-12.

- Obeldobel, C. A., & Kerns, K. A. (2019). Attachment security is associated with the experience of specific positive emotions in middle childhood. *Attachment & Human Development*, 1-13. <https://dx.doi.org/10.1080/14616734.2019.1604775>
- Park, N. (2004). The role of subjective well-being in positive youth development. *The ANNALS of the American Academy of Political and Social Science*, 591(1), 25–39. <https://doi.org/10.1177/0002716203260078>
- Rehan, W., Antfolk, J., Johansson, A., Jern, P., Santtila, P. (2017). Experiences of severe childhood maltreatment, depression, anxiety, and alcohol abuse among adults in Finland. *PLoS ONE*, 12(5), 1-12. <https://doi.org/10.1371/journal.pone.0177252>
- Quas, J. A., Dickerson, K. L., Matthew, R., Harron, C., & Quas, C. M. (2017). Adversity, emotion recognition, and empathic concern in high-risk youth. *PloS one*, 12(7), e0181606. <http://dx.doi.org/10.13743exical.pone.0181606>
- Rees C. (2007). Childhood attachment. *British Journal of General Practice*. 57(544), 920-922. <http://dx.doi.org/10.3399/09601640778231795>
- Schimmenti, A. (2016). Dissociative experiences and dissociative minds: Exploring a nomological network of dissociative functioning. *Journal of Trauma & Dissociation*, 17(3). <https://doi.org/10.1080/15299732.2015.1108948>
- Shen, A. C. T. (2009). Long-term effects of interparental violence and child physical maltreatment experience on PTSD and behavior problems: A national survey of Taiwanese college students. *Child Abuse & Neglect*, 33(3), 148–160.
- Shonkoff J. P. (2012). Leveraging the biology of adversity to address the roots of disparities in health and development. *Proceedings of the National Academy of Sciences of the United States of America*, 109(2), 17302–17307. <https://doi.org/10.1073/pnas.1121259109>
- Teixeira, C. A. B., Lasiuk, G., Barton, S., Fernandes, M. N. D. F., & Gherardi-Donato, E. C. D. S. (2017). An exploration of addiction in adults experiencing early-life stress: a metasynthesis. *Revista Latino-Americana de Enfermagem*, 25.
- Wade, R., Jr, Shea, J. A., Rubin, D., & Wood, J. (2014). Adverse childhood experiences of low-income urban youth. *Pediatrics*, 134(1), e13–e20. <https://doi.org/10.1542/peds.2013-2475>
- Wang, Y., Xu, K., Cao, G., Qian, M., Shook, J., & Ai, A. L. (2012). Child maltreatment in na incarcerated sample in China: Prediction for crime types in adulthood.

Children and Youth Services Review, 34, 1553-1559.

<https://doi.org/10.1016/j.chilyouth.2012.04.015>

Weeks, R., & Widom, C. S. (1998). Self-reports of early childhood victimization among incarcerated adult male felons. *Journal of Interpersonal Violence*, 13(3), 346–361. <https://doi.org/10.1177/088626098013003003>

Widom, C.S. , & Maxfield, M.G. (2001). An update on the “cycle of violence” (NIJ Research in Brief). Washington, DC: U.S. Department of Justice, Office of Justice Programs, National Institute of Justice.

Wilhelm, M. O., & Bekkers, R. (2010). Helping behavior, dispositional empathic concern, and the principle of care. *Social Psychology Quarterly*, 73(1), 11–32.

Wishman, M. A. (2006). Childhood trauma and marital outcomes in adulthood. *Personal Relationships*, 13, 375-386.

Wolff, N., & Shi, J. (2012). Childhood and adult trauma experiences of incarcerated persons and their relationship to adult behavioral health problems and treatment. *International Journal of Environmental Research and Public Health*, 9, 1908–1926.

Zoll, C., & Enz, S. (2005). A questionnaire to assess affective and cognitive empathy in children. *Journal of Child Psychology*, 15, 165-174.

Attachments B

Table 1
Correlations between the BCE scale, CTQ scale, and the IRI scale on normative population (n = 123)

	1	2	3	4	5	6	7	8	9	10	11	12
1. BCEs total score	1	-.67**	-.65**	-.57**	-.17**	-.61**	-.48**	-.00	-.06	.03	-.06	-.04
2. CTQ total score		1	.87**	.74**	.41**	.76**	.69**	.16	-.03	.12	.15	.14
3. CTQ Emotional Abuse			1	.64**	.31**	.67**	.47**	.14	-.09	.13	.16	.12
4. CTQ Emocional Neglect				1	.07	.42***	.47**	.02	-.20*	-.02	.13	.11
5. CTQ Sexual Abuse					1	.24**	.07	.26**	.11	.19*	.15	.19*
6. CTQ Physical Abuse						1	.50**	.11	.01	.12	.04	.08
7. CTQ Physical Neglect							1	.06	.03	.08	.03	.01
8. IRI Total score								1	.57**	.66**	.43**	.72**
9. IRI Perspective taking									1	.42**	-.14	.17
10. IRI Empathic concern										1	.09	.17
11. IRI Personal distress											1	.15
12. IRI Fantasy												1

Note. * p < .05, ** p < .01

Table 2
Correlations between the BCE scale, CTQ scale, and the IRI scale on inmates (n= 119)

	1	2	3	4	5	6	7	8	9	10	11	12
1. BCEs total score	1	-.61**	-.58**	-.61**	-.31**	-.52**	-.46**	-.18*	.16	.09	-.05	.15
2. CTQ total score		1	.88**	.83**	.50**	.85**	.77**	.04	-.05	.03	.12	.00
3. CTQ Emotional Abuse			1	.68**	.32**	.75**	.59**	.04	-.11	.12	.07	.02
4. CTQ Emocional Neglect				1	.38**	.62**	.61**	-.03	-.06	-.03	.08	-.04
5. CTQ Sexual Abuse					1	.27**	.29**	-.06	-.07	-.18	.09	-.01
6. CTQ Physical Abuse						1	.59**	.07	-.02	.06	.12	-.02
7. CTQ Physical Neglect							1	.09	-.02	.01	.19*	.04
8. IRI Total score								1	.59**	.66**	.37**	.67**
9. IRI Perspective taking									1	.48**	-.13	.18
10. IRI Empathic concern										1	-.10	.28**
11. IRI Personal distress											1	.04
12. IRI Fantasy												1

Note. * p < .05, ** p < .01

Positive experiences and victimization in childhood and youth: Relationship with empathy in inmates and in the normative population

Conclusion

This study aimed to analyze the psychometric properties of the Portuguese version of the BCEs (Narayan et al., 2017). It also intended to assess the impact and the relationship between positive experiences in childhood and childhood trauma and experiences of trauma and victimization in adulthood. Finally, it aimed to verify the differences between the normative population and the inmates' population regarding positive experiences and trauma in childhood and empathy in adulthood.

The Portuguese version of the BCEs showed good psychometric properties, such as good discriminating validity, good reliability, good predictive validity, and good linear regressions, corroborating the results of the original instrument (Narayan et al., 2017). The results showed that the less positive experiences in childhood, the more child trauma. These results are in line with other studies (Bethell et al., 2019; Gunay-Oge et al., 2020). There are also authors who say that positive experiences have crucial support with adverse life experiences (Poole, Dobson, & Pusch 2017; Sege & Browne, 2017). The results also showed that the more experiences of childhood trauma, the more trauma, and victimization in adulthood. Aaron et al. (2013) refer that vulnerability in childhood tends to replicate in adulthood.

Regarding the sample of the prison population, we found that the more positive and traumatic experiences in childhood, the more empathy in adulthood. Greenberg et al. (2018) corroborate these results, saying that those who experienced a traumatic event in childhood, tend to show more empathic concern in adulthood. Through this study, it is possible to verify that there is a relationship between the variables studied, especially between positive experiences and childhood trauma. Thus, it is necessary to intervene early to reduce the consequences of adulthood.

Limitations

Our study has some limitations that can interfere with the generalization of results. First, data collection for the second paper was carried out in two ways, online and in person. Online collection only allowed individuals with internet access to participate. Second, the characteristics of the sample of the normative population, which is characterized mainly by female participants, and the sample of the prison population, which is composed only of male individuals. Third, there is a discrepancy between the

sample number of the normative population and the sample number of the prison population. Fourth, the small number of both samples cannot be representative of the Portuguese population. Finally, this is a self-report protocol and, therefore, the responses obtained can be conveyed to social desirability.

Implications for Practice

Despite the mentioned limitations, this study allowed us to verify that positive experiences and trauma in childhood are associated. It also demonstrated that positive experiences and trauma in childhood are associated with more empathy in the prison population. The study also proved to be relevant since the BCEs were adapted for the Portuguese population, showing good psychometric properties, showing that it is suitable for this population. Finally, it is important to mention that this study is a pioneer because it allowed the assessment of positive childhood experiences by comparing two samples.

This study shows relevant results for the field of Forensic Psychology by analyzing concepts and concluding that there is a relationship between them. This is the first study on the psychometric properties of the BCEs for the Portuguese population, showing that it is an instrument capable of identifying positive experiences in childhood. Our study also shows that the lack of these same experiences influences the occurrence of traumas in childhood and traumas and victimization in adulthood. In addition, it was also seen in the prison population that both positive experiences and trauma in childhood predict empathy in adulthood. These results are fundamental and show the need to create preventive programs in childhood. These programs should be developed with the community at large (e.g., neighborhoods, schools) in order to promote positive experiences to reduce or even remedy traumas. These programs would also be interventive, as they also aim to reduce trauma and victimization in adulthood, as well as to develop empathic capacity. Finally, it would be interesting, based on this study, to explore the impact that positive childhood experiences can have in various areas of adult life (e.g., stress management, addiction behaviors).

References

- Aaron, E., Criniti, S., Bonacquisti, A., & Geller, P. (2013). Providing sensitive care for adult HIV-infected women with a history of childhood sexual abuse. *The Journal of Association of Nurses in AIDS Care*, 24(4), 355-367.
<http://dx.doi.org/10.1016/j.jana.2013.03.004>
- Bethell, C., Jones, J., Gombojav, N., Linkenbach, J., & Sege, R. (2019). Positive childhood experiences and adult mental and relational health in a statewide sample: Association across adverse childhood experiences levels. *JAMA Pediatrics*, 173(11), 1-10. <https://doi:10.1001/jamapediatrics.2019.3007>
- Greenberg, D.M., Baron-Cohen, S., Rosenberg, N., Fonagy, P., & Rentfrow, J. (2018). Elevated empathy in adults following childhood trauma. *PLoS ONE*, 13(10).
<http://dx.doi.org/10.1371/journal.pone.0203886>
- Gunay-Oge, R., Pehlivan, F. Z., & Isikli, S. (2020). Validity and reliability of the Benevolent Childhood Experiences (BCEs) Scale in Turkish. *The Journal of Psychiatry and Neurological Sciences*, 33, 146-154. 10.14744/DAJPNS.2020.00074
- Narayan, A. J., Rivera, L. M., Bernstein, R. E., Harris, W. W., & Lieberman, A. F. (2017). Positive childhood experiences predict less psychopathology and stress in pregnant women with childhood adversity: A pilot study of the benevolent childhood experiences (BCEs) scale. *Child and Abuse Neglect*, 1-12.
- Poole, J. C., Dobson, K. S., & Pusch, D. (2017). Childhood adversity and adult depression: The protective role of psychological resilience. *Child Abuse and Neglect*, 64, 89-100. <https://doi.org/10.1016/j.chiabu.2016.12.012>