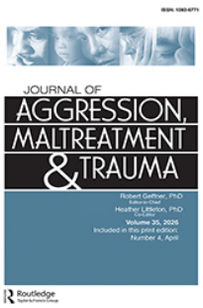

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Benevolent Childhood Experiences, Child Maltreatment, Adult Well-Being and Resilience

Luísa Rebelo Urbano[a], Eunice Magalhães[b], and Carla Silva[c]

[a]Faculdade de Psicologia, Universidade de Lisboa, Lisboa, Portugal; [b]CIS-ISCTE, Instituto Universitário de Lisboa (ISCTE), Lisboa, Portugal; [c]CICPSI, Faculdade de Psicologia, Universidade de Lisboa, Lisboa, Portugal

ABSTRACT

Several studies have established a link between child maltreatment and mental health problems in adulthood, as well as between benevolent childhood experiences (BCEs) and positive outcomes. However, less is known about how BCEs may lead to better adult mental health when maltreatment was also present. This study aimed to explore the moderating role of BCEs in the relationship between child maltreatment and psychological well-being and resilience. The study sample comprised 390 Portuguese-speaking emerging adults (aged 18–29 years; $M = 22.81$; $SD = 2.92$). Information regarding sociodemographic variables, child maltreatment, BCEs, psychological well-being and trait resilience was obtained via an online survey. Using multiple regression analysis, it was found that higher levels of child maltreatment and lower levels of BCEs were associated with poorer well-being and resilience. BCEs moderated the relationship between child maltreatment and well-being and resilience such that individuals with higher levels of BCEs reported greater well-being and resilience but also exhibited greater reductions in these indicators as their exposure to maltreatment increased. These results highlight the importance of the interplay between positive and negative childhood experiences for future well-being and resilience. They also draw attention to the need for monitoring early experiences to enable preventive strategies, as well as the importance of adjusting clinical interventions in accordance with the level of maltreatment experienced.

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Benevolent childhood experiences; child maltreatment; emerging adults; psychological well-being; resilience

Research has consistently shown that lower levels of benevolent childhood experiences (BCEs) and higher levels of child maltreatment are associated with adult psychopathology (e.g., Baldwin et al., 2023; Feiler et al., 2023). Yet, fewer studies have examined the relationship between childhood experiences and positive psychological outcomes in adulthood (Han et al., 2023), and the association between these variables remains understudied in emerging adulthood, a developmental period from ages 18 to 29 marked by frequent and challenging transitions that can have a negative impact on

CONTACT Luísa Rebelo Urbano luisarebelourbano@gmail.com Faculdade de Psicologia, Alameda da Universidade, Lisboa 1649-013, Portugal

mental health (Arnett et al., 2014; Masten, 2006). As the experiences of 18- to 29-year-olds have shifted greatly over the last decades, with increased instability in relationships, work, and habitation (Arnett et al., 2014), it is now more important than ever to study this life stage. While emerging adulthood is a period of vulnerability, it is also one of potential growth and opportunity (Masten, 2006), underscoring the importance of studying well-being and resilience as indicators of adaptation to the developmental challenges of this stage. In addition, the role of BCEs in the association between child maltreatment and adjustment in adulthood remains unclear (Han et al., 2023). To address these gaps and inconsistencies in previous research, this study will investigate whether BCEs moderate the association between child maltreatment and both resilience and well-being in emerging adulthood.

Psychological well-being and resilience

For several decades, researchers aiming to understand human behavior focused mainly on pathology, thus neglecting positive variables (Seligman & Csikszentmihalyi, 2000). However, currently, mental health is understood not only as the absence of psychopathology but also as the presence of positive emotions and well-being (Magalhães, 2024). For this progress, the contributions of Positive Psychology were essential, as this field studies positive emotions and traits (Seligman et al., 2005). Well-being and resilience are key examples of the psychological variables addressed by Positive Psychology (Masten, 2001; Seligman et al., 2005). Psychological well-being can be described according to six core dimensions: self-acceptance, positive relations with others, environmental mastery, personal growth, purpose in life, and autonomy (Ryff, 2014). It is sometimes possible to maintain high psychological well-being despite adversity, and encountering obstacles may even promote personal growth and well-being (Ryff, 2014). Resilience can be defined as a trait that develops over time, especially throughout childhood, resulting from the dynamic interaction between individuals and their environments, and allowing them to overcome adversities that jeopardize healthy development (Pinheiro et al., 2015; Wagnild & Young, 1993).

Various studies have sought to identify features of children's developmental environments that are associated with greater psychological well-being and resilience in adulthood. Research has found that interaction with competent and responsive adults who provide adequate care is associated with greater psychological well-being and resilience in adulthood, whereas experiences such as lack of parental support or suffering violence have the opposite effect (Masten, 2001; Ryff, 2013). It is thus clear that positive and negative childhood experiences, both within the family and the broader community, play

a significant role in psychological well-being and resilience in adulthood (Ryff, 2013; Ungar et al., 2013).

Child maltreatment

Child maltreatment refers to the commission or omission of acts that result in actual or potential harm to a child's health, development, or dignity (Berzenski & Yates, 2022). Sexual, physical and emotional abuse and physical and emotional neglect are the main types of child maltreatment (Bernstein et al., 2003). The occurrence of child maltreatment is relatively common: almost 1 out of 5 young adults have experienced at least one moderate to severe form of maltreatment (Kasinger et al., 2024). Emotional abuse and neglect are the most common types of child maltreatment (e.g., Dias et al., 2013). Emotional and sexual maltreatment are more prevalent in women than men, while all types of child maltreatment are most common among non-binary individuals (Higgins et al., 2025). Additionally, a history of multi-type maltreatment is more frequent than exposure to a single type, particularly among women and non-binary individuals (Higgins et al., 2023).

Since Felitti et al. (1998) first established the link between adverse childhood experiences and increased adult mortality risk, a substantial body of research has reported the wide-ranging long-term negative consequences of child maltreatment (Baldwin et al., 2023; Norman et al., 2012). Exposure to child maltreatment has been associated with increased rates of physical health problems such as obesity, diabetes and hypertension (Clemens et al., 2018), as well as mental health problems including depression, anxiety (Li et al., 2016), and psychosis (Varese et al., 2012) in adulthood. There is also a heightened risk of suicide (Angelakis et al., 2019), self-harm (Liu et al., 2018) and illicit substance abuse (Halpern et al., 2018) among adults who were victims of child maltreatment. Mental illness is more prevalent among individuals who experienced multi-type maltreatment than among those exposed to only one type (Scott et al., 2023).

Recent studies have aimed to clarify the mechanisms linking child maltreatment to increased risk for mental and physical health problems in adulthood. Bucci et al. (2016) argue that early life is a period of heightened vulnerability to adversity and therefore prolonged or intense stress exposure can dysregulate stress response systems, leading to neuroendocrine and immune dysregulation and increasing vulnerability to illness. Additionally, caregivers who perpetrate maltreatment often have poor emotional regulation abilities (Lavi et al., 2019), which may impair children's acquisition of these skills. Thus, the combination of pathological stress activation and maladaptive social learning may disrupt the development of adequate emotional regulation skills, a key psychological mechanism connecting child maltreatment to psychopathology in adulthood

(Miu et al., 2022). However, childhood is not only a sensitive period for adversity. BCEs can also promote epigenetic changes with lasting positive effects on adult physical and psychological health (Bucci et al., 2016).

Benevolent childhood experiences

While research has traditionally focused more on negative childhood experiences than on positive ones (Crandall et al., 2019), over the past decade there has been a growing number of studies aiming to understand how BCEs may influence adult adjustment (Han et al., 2023). Examples of BCEs include effective parenting practices, positive peer relationships, a healthy sense of self and access to community resources (Almeida et al., 2021). Research indicates that BCEs are highly prevalent. For instance, Almeida et al. (2021) found that Portuguese adults reported an average of about 9 BCEs out of a possible 10.

By promoting a sense of security, BCEs support the acquisition of fundamental skills like emotional regulation, the formation of healthy relationships, and successful integration of social experiences, offering long-term protection against maladjustment and mental health issues (Almeida et al., 2021; Cicchetti & Toth, 2009). In fact, research has found that higher levels of BCEs are associated with lower levels of anxiety, depression, and post-traumatic stress symptoms (Feiler et al., 2023), less suicidal ideation and fewer suicide attempts (Crandall et al., 2021), reduced feelings of loneliness and perceived stress (Doom et al., 2021) and increased life satisfaction (Gunay-Oge et al., 2020), in adulthood. Higher levels of BCEs are also associated with better cardiovascular health (Slopen et al., 2017), greater fruit and vegetable intake, fewer sleep difficulties (Crandall et al., 2019) and lower tobacco use and alcohol abuse (Graupensperger et al., 2023), in adulthood. Beyond examining the link between BCEs and adult adjustment, researchers have increasingly focused on how such experiences can promote adaptation among individuals who were also exposed to child maltreatment.

The role of BCEs in the relationship between child maltreatment and psychological well-being and resilience in adulthood

Empirical findings reveal that child maltreatment is linked to lower adult resilience and psychological well-being (Jankovic et al., 2024; Nishimi et al., 2020). Conversely, BCEs are positively associated with adult well-being and resilience (Sever et al., 2024; Shaw et al., 2023). Given that early experiences cumulatively shape developmental outcomes (Masten et al., 2021), it is important to study the combined influence of positive and negative childhood experiences on long-term adjustment.

According to Zimmerman (2013), three main models explain how BCEs can counteract, protect, or inoculate individuals against long-term effects of maltreatment: the Compensatory, Challenge, and Protective models. The Compensatory Model posits that positive factors directly promote favorable outcomes, offsetting negative influences regardless of risk levels (Masten et al., 2021). Most studies investigating the promotive effects of BCEs support the Compensatory Model (Han et al., 2023). The Challenge Model suggests that moderate childhood adversity can equip individuals with coping resources, whereas excessive adversity may overwhelm these mechanisms (Crandall et al., 2019). Although evidence for this model is less extensive (Zimmerman, 2013), there is empirical support for the model's prediction that coping mechanisms may be overwhelmed under extreme stress (Crandall et al., 2019). Lastly, the Protective Model proposes that positive factors moderate the negative effects of adverse experiences, attenuating their impact (Zimmerman, 2013). Evidence regarding this model is mixed (Han et al., 2023). Some studies do not find evidence of moderation effects. For example, Doom et al. (2021) reported that BCEs and childhood adversity did not interact to influence psychopathological symptoms. Other studies (e.g., Bhargav & Swords, 2024), however, do identify moderation effects, reporting that higher levels of BCEs attenuate the negative impact of adversity on adult adjustment, which aligns with the Protective Model. There are also studies (e.g., Crandall et al., 2019) that identify interaction effects, but in which the negative association between adversity and adult adjustment is stronger at medium or high levels of BCEs than at low levels, contradicting the Protective Model.

The present study

This study aims to analyze the moderating role of BCEs in the relationship between childhood maltreatment and psychological well-being and resilience among emerging adults. Drawing on the previously outlined research evidence, four main hypotheses are proposed. First, it is hypothesized that individuals who experienced higher levels of child maltreatment will demonstrate poorer resilience (H1) and psychological well-being (H2). Those with more BCEs are predicted to exhibit greater resilience (H3) and psychological well-being (H4). Given the mixed research evidence, no specific hypotheses are proposed regarding the moderating role of BCEs in the relationship between child maltreatment and psychological well-being and resilience in adulthood.

Method

Participants

This study was conducted with a nonrandom convenience sample of 390 adults (58.2% female), aged between 18 and 29 years ($M = 22.81$; $SD = 2.92$). Most participants were Portuguese (93.3%), students or working-students (75.9%) and had a bachelor's degree or higher (74.6%). Regarding participants' mental health, 27.9% reported receiving current psychiatric or psychological support.

Measures

A sociodemographic questionnaire was used to collect information regarding participants' individual variables. Specifically, questions focused on their gender, age, nationality, highest level of education attained, occupation and whether the participants are currently receiving or have previously received psychological or psychiatric care.

Benevolent childhood experiences

The Benevolent Childhood Experiences Questionnaire (BCEs; Narayan et al., 2018; Portuguese version Almeida et al., 2021) is a 10-item self-report questionnaire that assesses positive experiences during the first 18 years of life. The positive experiences assessed include internal and external safety (e.g., "Did you have at least one caregiver with whom you felt safe?"), supportive relationships (e.g., "Did you have at least one good friend?") and a positive and predictable quality of life (e.g., "Did you have a predictable home routine, like regular meals and a regular bedtime?"). For each item, participants are instructed to indicate whether they experienced the event described, responding with "Yes" or "No." The sum of "Yes" responses provides a cumulative score ranging 0–10. In the adaptation study of the BCEs for the Portuguese population (Almeida et al., 2021), the internal consistency found was .69. In this sample, the internal consistency was .56. Despite the relatively low Cronbach's alpha value, this can be considered acceptable given the good predictive validity already demonstrated for this scale (Narayan et al., 2018). Furthermore, the cumulative and multifaceted nature of the experiences assessed may contribute to a lower internal consistency (DeVellis, 2017; Tavakol & Dennick, 2011).

Child maltreatment

The Childhood Trauma Questionnaire – Short Form (CTQ-SF; Bernstein et al., 2003; Portuguese version Dias et al., 2013) is a self-report measure of exposure to maltreatment during the first 15 years of life. Participants rate items describing experiences of maltreatment or

appropriate care using a 5-point Likert scale according to how frequently they occurred during childhood: 1 – *Never True*, 2 – *Rarely True*, 3 – *Sometimes True*, 4 – *Often True*, and 5 – *Very Often True*. Each item is scored from one to five, with reverse scoring for items that describe positive experiences. The instrument comprises five subscales assessing exposure to five types of maltreatment: emotional abuse, physical abuse, sexual abuse, physical neglect, and emotional neglect. A total score indicating overall exposure to childhood maltreatment is obtained by summing the subscale scores. The original version (Bernstein et al., 2003) revealed good psychometric properties, with Cronbach's alphas ranging from .61 (physical neglect) to .71 (sexual abuse). The Portuguese version (Dias et al., 2013) reached internal consistency values for the subscales between .47 (physical neglect) and .79 (emotional neglect). In our sample, the internal consistency of the instrument was adequate, except for the physical neglect subscale (total score $\alpha = .79$; emotional abuse $\alpha = .86$; emotional neglect $\alpha = .89$; sexual abuse $\alpha = .77$; physical abuse $\alpha = .77$; physical neglect $\alpha = .56$).

Psychological well-being

The Psychological Well-being Manifestation Measure Scale (Massé et al., 1998; Portuguese version Monteiro et al., 2012) is a self-report measure of perceived psychological well-being. This questionnaire consists of 25 items divided into six subscales: self-esteem, balance, social involvement, sociability, self-control and control over events, and happiness. Participants respond using a 5-point Likert scale, indicating how frequently each experience occurred in the past month: 1 – *Never*, 2 – *Rarely*, 3 – *Sometimes*, 4 – *Frequently*, or 5 – *Almost Always*. Higher total scores, obtained by summing the scores of all items, indicate greater psychological well-being. Psychometric studies of the original version (Massé et al., 1998) revealed adequate internal consistency for the global scale ($\alpha = .93$) and for the subscales, with Cronbach's alpha values ranging from .71 (social involvement) to .85 (happiness). In the adaptation study for the Portuguese population (Monteiro et al., 2012), Cronbach's alpha values for the factors and the global scale were also adequate, ranging from .67 (social involvement) to .89 (happiness). In the present study, the internal consistency of the global scale was excellent ($\alpha = .95$). The Cronbach's alpha values for the subscales were adequate, except for the balance subscale (happiness $\alpha = .91$; sociability $\alpha = .76$; self-control and control over events $\alpha = .80$; social involvement $\alpha = .74$; self-esteem $\alpha = .86$; balance $\alpha = .59$).

Resilience

The Resilience Scale – Brief Form (RS13; Wagnild & Young, 1993; Portuguese version Pinheiro & Matos, 2013) is a 13-item self-report measure of resilience. Each item is rated on a 7-point Likert scale (from 1 –

Strongly Disagree to 7 – *Strongly Agree*). The total score is obtained by summing the scores for all items, with higher scores reflecting greater resilience. In the adaptation study of the RS13 for the Portuguese population (Pinheiro & Matos, 2013), internal consistency was found to be excellent (α = .93) and similar to that reported by the authors of the original scale (Wagnild & Young, 1993). In the present study, the internal consistency of the instrument was also adequate (α = .89).

Procedure

This study was approved by the ethics committee of *Faculdade de Psicologia da Universidade de Lisboa*. It was advertised through posts on social media platforms that invited potential participants to complete an online survey on Qualtrics about childhood experiences and outcomes in adulthood. To take part in this study, participants had to be 18 to 29 years old and fluent in Portuguese. Upon accessing the link to the protocol, participants were informed that their participation was anonymous, confidential, and voluntary, and that they could withdraw at any time. They were also informed that no identifying information would be recorded, that the data would be used solely for statistical analysis, and that no individual responses would be analyzed or reported. Participants were told that after completing the protocol they could enter a raffle for a €10 (approximately 11.50 US dollars) gift card. Having provided informed consent, participants completed the sociodemographic questionnaire and the four measures, the order of which was randomized. After completing the protocol, participants were provided with further information regarding the aims of the study. Participants were also informed that, if they wished to enter the raffle, they should e-mail one of the researchers, merely writing "Gift Card Lottery" in the subject line. The protocol had an estimated completion time of 8 minutes and was available for 7 weeks.

Statistical analysis

Statistical data analysis was performed using IBM SPSS Statistics (Version 29.0). Little's Missing Completely at Random test (Little, 1988; $\chi^2 = 97.602$, $df = 80$, $p = .09$) suggested missing data was random. Consequently, the Expectation-Maximization algorithm available in SPSS (Schafer, 1997) was employed to impute missing values, utilizing all available information from other variables. Descriptive statistics were calculated, followed by Pearson's correlations among the variables intended for inclusion in the model. Composite variables were computed by summing the scores assigned to each item. To allow gender to be included as a covariate in the model, non-binary participants were not included in these statistical analyses, nor in the subsequent ones. Control variables in moderation analyses were selected based on

correlation results. Lastly, two moderation analyses were conducted using PROCESS macro for SPSS' (version 4.2; Hayes, 2022) Model 1, examining the interaction of BCEs and child maltreatment on psychological well-being and resilience. Predictor and moderator variables were mean-centered. Analyses were performed according to linear model assumptions. Histogram and P-P plots indicated no serious violations of normality or homoscedasticity, and multicollinearity and autocorrelation assumptions were considered (Hayes, 2022).

Results

Descriptive and correlation analyses

Table 1 presents the descriptive statistics and correlations for the study variables. On average, participants reported relatively low levels of child maltreatment and high levels of BCEs. The mean levels of psychological well-being and resilience were also high.

Bivariate correlation analyses revealed several significant correlations, ranging from weak to strong (Cohen, 1988). Child maltreatment showed negative correlations with BCEs, well-being and resilience, as well as positive correlations with current psychological or psychiatric support and gender. These results indicate that participants reporting higher levels of child maltreatment reported fewer BCEs and lower current psychological well-being and resilience. They were also more likely to be female, and to be receiving psychological or psychiatric support. BCEs were positively correlated with psychological well-being and resilience, indicating that individuals who experienced more BCEs also reported higher levels of these indicators. In addition, BCEs were negatively correlated with current psychological or psychiatric care, suggesting that participants with more BCEs were less likely to be

Table 1. Descriptive statistics and correlation analyses.

	M	*SD*	1	2	3	4	5	6	7
1. Maltreatment	47.58	8.51	–						
2. BCE	8.79	1.39	−.50***	–					
3. PWB	90.43	16.10	−.38**	.42***	–				
4. Resilience	69.64	11.83	−.33***	.42***	.78***	–			
5. Age	22.83	2.92	.02	−.08	−.06	−.04	–		
6. Gender[a]	.59	–	.11*	−.04	−.18***	−.13**	.00	–	
7. Education level[b]	3.69	1.05	−.09	−.05	.14**	.13*	.43***	.08	–
8. PS[c]	.28	–	.23***	−.11*	−.24***	−.21***	.08	.14**	.07

Note. *M* = Mean; *SD* = Standard Deviation; BCE = Benevolent Childhood Experiences; PWB = Psychological Well-Being; PS = Psychological/Psychiatric Support.

[a]Gender: 0 – Male, 1 – Female (proportion of female gender is reported).

[b]Education level: 1– 9th grade, 2– 12th grade (or equivalent), 3 – Post-secondary non-tertiary education, 4 – Bachelor's degree, 5 – Master's degree, 6 – PhD.

[c]PS: 0 – Doesn't have currently, 1 – Currently has (proportion of participants currently receiving this support is reported).

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

receiving such support. Psychological well-being was positively correlated with resilience, indicating that individuals reporting higher well-being also reported greater resilience. A positive correlation was also found between well-being and educational attainment, suggesting that those with higher academic qualifications reported higher levels of well-being. Additionally, negative correlations were observed between psychological well-being and both gender and current psychological or psychiatric care, indicating that individuals with higher levels of well-being were less likely to be receiving such support, and that males reported greater well-being. Resilience showed negative correlations with both gender and current psychological or psychiatric care, indicating that individuals reporting higher resilience levels were more likely to be male and less likely to be receiving psychological or psychiatric support. In addition, a positive correlation was observed between resilience and educational attainment, suggesting that individuals with higher academic qualifications reported greater resilience.

Moderation analysis

The results of the moderation model are presented in Table 2. Gender, educational attainment and current psychological or psychiatric support were included as covariates due to their significant correlations with well-being and resilience. Age was not included in the model, as it was not significantly related to any of the outcome variables.

Maltreatment showed significant negative effects on resilience and psychological well-being, meaning that greater exposure to child maltreatment is linked to reduced resilience and well-being. In contrast, BCEs had significant positive effects on these variables, indicating that those who reported more BCEs also reported higher levels of resilience and psychological well-being.

Table 2. Moderation Model.

	Resilience $R^2 = .25$; $F = 21.58$, $p < .001$			Psychological Well-Being $R^2 = .31$; $F = 28.47$, $p < .001$		
Predictors	*B*	*SE*	*p*	*B*	*SE*	*p*
Maltreatment	−.19	.08	.018	−.44	.11	<.001
BCEs	3.30	.45	<.001	4.35	.59	<.001
Interaction	−.07	.04	.041	−.18	.05	<.001
Gender[a]	−2.47	1.08	.023	−4.85	1.42	<.001
Education level[b]	1.65	.51	.001	2.29	.67	<.001
PS[c]	−3.53	1.22	.004	−5.24	1.60	.001

Note. *B* = Unstardardized coefficient; *SE* = Standard Error; BCE = Benevolent Childhood. Experiences; PS = Psychological/Psychiatric Support.

[a]Gender: 0 – Male, 1 – Female.

[b]Education level: 1– 9th grade, 2– 12th grade (or equivalent), 3 – Post-secondary non-tertiary education, 4 – Bachelor's degree, 5 – Master's degree, 6 – PhD.

[c]PS: 0 – Doesn't have currently, 1 – Currently has.

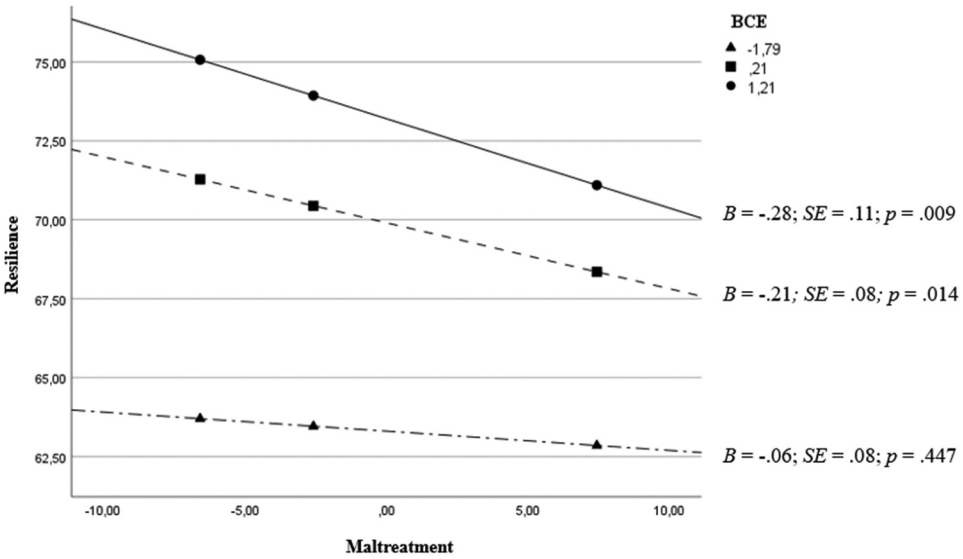

Figure 1. Effect of maltreatment on resilience at low, medium, and high levels of BCEs. Note. BCE = Benevolent Childhood Experiences.

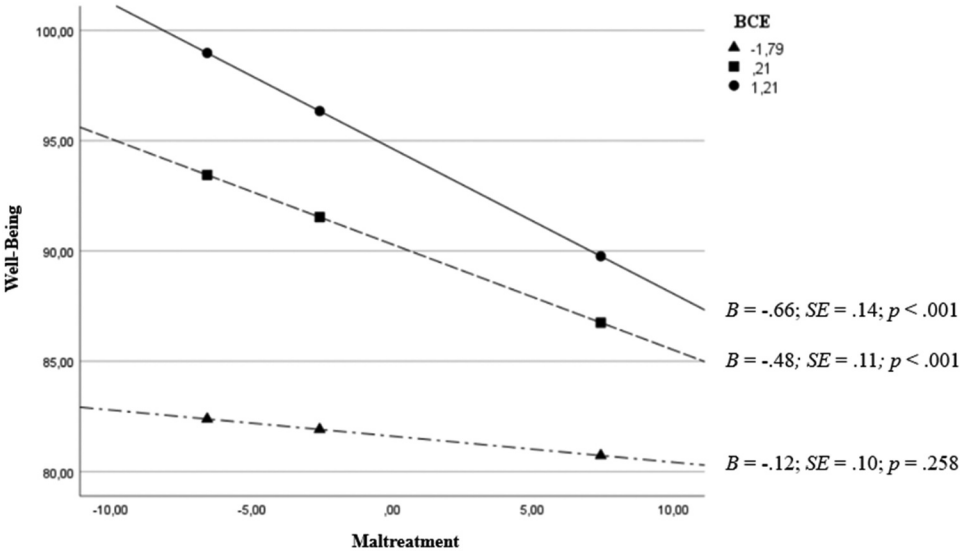

Figure 2. Effect of maltreatment on well-being at low, medium, and high levels of BCEs. Note. BCE = Benevolent Childhood Experiences.

Additionally, significant interaction effects were observed between maltreatment and BCEs on resilience and well-being. The model explained 25% of the variance in resilience and 31% of the variance in psychological well-being. The inclusion of the interaction terms led to a significant, albeit small, increase in the explained variance for both resilience ($\Delta R^2 = .01$, $F = 4.19$, p

= .041), and well-being (ΔR^2 = .03, F = 14.32, p < .001). These results show that the effect of child maltreatment on resilience and psychological well-being varies according to the level of BCEs. For descriptive purposes, the effect of child maltreatment on current resilience (Figure 1) and psychological well-being (Figure 2) was examined separately at low, medium, and high levels of BCEs, corresponding to the 16th, 50th, and 84th percentiles of the moderator variable distribution (Hayes, 2022), that is, at the values −1.79, 0.21, and 1.21 of the mean-centered variable, respectively. As depicted in Figures 1 and 2, simple slope analyses indicate that for those with few BCEs, resilience and well-being levels are lower and not significantly influenced by maltreatment. However, at medium (50th percentile) or high (84th percentile) levels of BCEs, the negative effect of maltreatment is significant and becomes more pronounced as BCEs increase. In other words, individuals with more BCEs experience a sharper decline in resilience and well-being as maltreatment increases. Thus, while BCEs enhance resilience and well-being, their protective effect weakens as adversity increases.

Regarding the covariates, results showed a negative effect of gender on resilience and well-being, indicating that male participants reported higher levels of both outcomes. Educational attainment also had a significant positive effect, with individuals holding higher academic qualifications reporting greater resilience and well-being. Finally, there was a significant negative effect of receiving psychological or psychiatric support, suggesting that those with higher current resilience and well-being were less likely to be seeking such help.

Discussion

To expand upon existing research, this study aimed to analyze the moderating role of BCEs in the association between child maltreatment and psychological well-being and resilience in emerging adulthood. Our results indicated that greater exposure to child maltreatment is associated with poorer resilience and well-being, thereby supporting Hypotheses 1 and 2. In contrast, a higher number of BCEs was associated with increased resilience and well-being, supporting Hypotheses 3 and 4. These findings are consistent with prior research, which has found that adverse childhood experiences are linked to poorer adult well-being (Jankovic et al., 2024) and resilience (Nishimi et al., 2020), whereas BCEs are associated with higher levels of well-being (Shaw et al., 2023) and resilience (Sever et al., 2024) in adulthood.

The emotion regulation strategies developed in childhood may account for these findings. Emotion regulation has been shown to mediate the relationship between positive and negative childhood experiences and adult psychopathology (Feiler et al., 2023; Miu et al., 2022). Furthermore, research has identified positive links between adaptive emotion regulation and both resilience (Polizzi

& Lynn, 2021) and psychological well-being (Marroquín et al., 2017). However, to date, no studies have examined the mediating role of emotion regulation in the relationship between early experiences and adult well-being and resilience. Nevertheless, given the aforementioned empirical findings, it seems plausible to consider emotion regulation as a key psychological mechanism underlying these associations.

Our findings support the Compensatory Model (Zimmerman, 2013), as they demonstrate that child maltreatment and BCEs are associated with well-being and resilience in opposite directions, independent of their interaction. Regarding the Challenge Model (Zimmerman, 2013), our results do not allow us to determine whether experiencing moderate levels of adversity promotes the development of adaptive coping strategies, as proposed by the model. Nevertheless, our results indicate that high levels of adversity may overwhelm protective systems, as anticipated by the model. BCEs are universally beneficial and can reduce the harmful effects of maltreatment, but their protective role depends on the level of adversity encountered: it is weaker when adversity is high. In contrast to the Protective Model (Zimmerman, 2013), our findings indicate that the negative association between child maltreatment and both well-being and resilience is stronger among individuals with moderate and high levels of BCEs. As maltreatment increased, individuals with more BCEs seem to become more vulnerable to its adverse effects. In contrast, those with few BCEs already reported lower levels of well-being and resilience, and these indicators did not decrease significantly as maltreatment increased. These findings suggest that, although child maltreatment is harmful, the deprivation of BCEs may have an even greater negative impact on long-term adjustment.

While there are other studies reporting findings that contradict the Protective Model (Han et al., 2023; Zimmerman, 2013), the processes underlying these results remain unclear. One possible explanation is that participants with numerous BCEs who also suffered maltreatment may have been more aware of the contrast between these childhood experiences, thereby experiencing greater distress and reporting poorer well-being and resilience in adulthood. For these participants, maltreatment may have been an unexpected vulnerability, with a stronger disruptive impact than for those with fewer BCEs. Furthermore, stress inoculation theory (Rutter, 2013) suggests that moderate adversity may help individuals develop coping mechanisms that foster resilience. Therefore, those from less supportive backgrounds may have more robust coping skills, whereas those with more BCEs may be less prepared to handle adversity, resulting in greater declines in resilience and well-being when exposed to maltreatment. Finally, as maltreatment is less frequent among those with more BCEs (Crandall et al., 2019), those who do experience it might feel greater shame, perceiving their experiences as unusual within their social environment. This shame may lead them to avoid sharing these

negative experiences with their peers, which is particularly detrimental given evidence that discussing relevant issues within social networks bolsters resilience (Sege & Browne, 2017).

Crandall et al. (2019) reported findings similar to those of this study. These authors investigated the impact of early positive and negative experiences on adult mental and physical health. In line with the Compensatory and Challenge Models (Zimmerman, 2013), both benevolent and adverse experiences had significant, independent effects on adjustment, and the beneficial effect of BCEs was weaker at higher levels of maltreatment. Consistent with our results, the authors found no support for the Protective Model (Zimmerman, 2013), as the negative association between childhood adversity and adult health was stronger among individuals who had experienced more BCEs.

It should be noted, however, that not all studies report findings consistent with ours, which highlights the need for continued research to better understand how BCEs influence the association between child maltreatment and adult mental health. For instance, Doom et al. (2021) found no interaction between BCEs and childhood adversity in their relationship with university students' mental health during the COVID-19 pandemic. The authors proposed that these results could be due to the limited variability and high mean levels of BCEs in their sample or to the unique conditions of the pandemic (e.g., isolation, health concerns, financial strain) that may have contributed to a specific psychosocial context in which childhood adversity and BCEs did not interact. Given that our sample had similar BCEs patterns, and we found significant interaction effects, the latter explanation seems more plausible. Another example is Bhargav and Swords (2024) study that examined BCEs, adverse childhood experiences and mental health among university students. They found that adversity was less strongly related to poor mental health in individuals with higher levels of BCEs. Differences in sample composition may explain why their findings differ from ours. Their sample consisted predominantly of females, whereas our sample had a more balanced gender distribution. As women generally seek social support more often than men (Ptacek et al., 1992), and high BCEs scores suggest exposure to supportive environments (Almeida et al., 2021), women with more BCEs may be more likely to use community support to cope with maltreatment, amplifying the protective effects of BCEs, whereas men may rely less on such resources.

Our results also showed that resilience and well-being vary according to gender, educational attainment and current psychiatric or psychological support. Females reported greater exposure to child maltreatment than males, which is consistent with prior findings regarding gender differences in these experiences (Higgins et al., 2023). They also displayed lower psychological well-being and resilience, which is likely related to their greater exposure to maltreatment. Higher educational attainment was associated with increased

well-being and resilience. As achieving higher degrees of education is a socially valued goal, participants with higher education levels may feel more self-fulfilled and better adapted to their environment, thus reporting higher psychological well-being. Additionally, higher resilience might both facilitate educational attainment and be strengthened through overcoming academic challenges. Lastly, participants currently receiving psychological or psychiatric support reported greater child maltreatment, fewer BCEs, and lower levels of current well-being and resilience. These results suggest that individuals with more negative childhood experiences and poorer current mental health are recognizing their needs and seeking support.

Study limitations and strengths

Despite the significant contributions of this research to understanding the relationship between early experiences and adult adjustment, several limitations should be acknowledged. Firstly, the cross-sectional nature of the data prevents the establishment of causal relationships between variables. Future longitudinal research is necessary to overcome this limitation. In addition, it is important to consider that the Portuguese cultural context is characterized by a strong family orientation and close intergenerational ties (Aboim et al., 2013), which may influence the occurrence and perception of positive and negative childhood experiences, thereby limiting the generalizability of our results to other cultures. Nonetheless, the similarity between our findings and those reported by Crandall et al. (2019) suggests that, although cultural factors may influence how these experiences are perceived and reported in Portugal, the identified effects extend beyond our cultural context.

The retrospective nature of childhood experience reports raises concerns about potential memory biases. However, Hardt and Rutter (2004) argue for the overall reliability of retrospective reports of childhood adversity and Narayan et al. (2018) state that the BCEs scale's Yes/No response format regarding the availability of objective childhood resources also demonstrates sufficient retrospective reliability. In addition, the CTQ-SF measures only the frequency of maltreatment, overlooking other relevant features, including perpetrator, severity, chronicity and age of onset (Jankovic et al., 2022; Smith & Pollak, 2020). Similarly, the BCEs scale only assesses the presence of BCEs, without considering factors like timing of occurrence, which are important predictors of adult outcomes (Merrick et al., 2020). Future studies should incorporate these aspects for a more comprehensive assessment.

The non-probabilistic sampling method used in this study restricts the generalizability of the results. It is also important to mention that our sample was highly educated and therefore not representative of the population. Future studies with less educated samples are needed. Furthermore, in our community-based sample, participants showed generally low child maltreatment and

high levels of BCEs, well-being and resilience. Therefore, findings may not extend to populations with worse childhood experiences. Comparative studies involving clinical and non-clinical groups could provide further insight into these effects under different conditions. Similarly, non-binary individuals tend to report particularly high levels of child maltreatment (Higgins et al., 2025), making it especially relevant to examine the associations between the studied variables in this population. However, in the present study, the small number of non-binary participants ($n = 4$) precluded comparative analyses with female and male participants. Future research should aim to include a larger and more balanced sample of non-binary individuals to allow for meaningful comparisons.

This study also has several strengths, such as its considerable sample size ($N = 390$), which enhances the robustness of the results. The relatively balanced male/female proportion is also noteworthy, as it is uncommon in this field and enhances the generalizability of gender-related findings. Furthermore, this research is among the few recent studies to examine the potential moderating role of BCEs in the relationship between childhood maltreatment and positive adjustment indicators. It is, to our knowledge, the first to explore the interaction between positive and negative early experiences in relation to psychological well-being and resilience. Our results indicate that the protective effect of BCEs varies according to adversity level, being less effective when adversity is high. This supports a dynamic, multidetermined model of adaptation and has relevant implications for clinical practice. Interestingly, the finding that higher levels of BCEs may increase vulnerability to maltreatment is relatively unexpected and could inform future theoretical and practical developments.

Implications for practice

This study's findings bear relevant implications for prevention and intervention practices in both clinical and community environments, with children and adults. Firstly, child healthcare professionals should be aware of risk factors associated with maltreatment such as economic hardship and parental mental health disorders and substance abuse (Doidge et al., 2017), to facilitate early detection and prevention. In addition to practices aimed at high-risk groups, systematic assessment of adversity should be integrated into standard pediatric care, as children raised in environments rich in BCEs are not immune to the negative consequences of adverse events. While children with many BCEs generally show better adjustment, they may be more vulnerable to the long-term negative impact of maltreatment. Accordingly, healthcare providers should be vigilant for signs of adversity even among children with mostly positive experiences, as exposure to trauma or stress can have marked long-term effects on their mental health. However, children are often only flagged for intervention after maltreatment has occurred, and some early

adversities cannot be prevented. In these instances, maximizing BCEs is a more attainable goal. This study's findings emphasize the need for pediatric health professionals to monitor adverse and positive experiences, as both the presence of adversity and the absence of BCEs can hinder adjustment. Early detection of insufficient BCEs enables proactive promotion, preventing maladaptive outcomes. Family psychoeducation regarding strategies to support children's social, emotional, and relational development is crucial (Sege & Browne, 2017). Additionally, public policies should aim to encourage community engagement and collaboration. Nevertheless, in cases of severe maltreatment, BCEs alone may not provide adequate protection, highlighting the need for additional measures, such as active coping and trauma processing interventions. Thus, evidence from this study indicates that interventions should be targeted according to the level of adversity.

Lastly, adult clinicians should explore not only patients' adverse childhood experiences, but also their positive ones, as considering both provides a more comprehensive understanding of the impact of early experiences on present mental health. Such an assessment allows clinicians to identify traumatic experiences that may benefit from reprocessing and to leverage positive experiences as therapeutic resources.

Conclusion

In sum, this study showed that those with higher levels of BCEs and lower levels of child maltreatment report greater psychological well-being and resilience. Additionally, interaction effects were observed, with the negative relationship between maltreatment and well-being/resilience being stronger at moderate and high levels of BCEs than at low levels. While those with more BCEs generally display better well-being and resilience, they experience sharper declines in these indicators as maltreatment increases. These findings are consistent with existing research on the relationship between childhood experiences and adult adjustment and further clarify the moderating role of BCEs in the association between maltreatment and adult adjustment, contributing to an ongoing and unresolved scientific debate.

Disclosure statement

No potential conflict of interest was reported by the author(s).

AI disclosure statement

During the preparation of this work, the authors used Perplexity AI (July 2025 version) to perform English language editing and improvement. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

Data availability statement

The data supporting this study's findings are available from the corresponding author upon reasonable request.

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