

The Mediating Role of Sense of Coherence in the Relationship between Positive Childhood Experiences and Alexithymia

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Abstract

This study examined the mediating role of the sense of coherence in the relationship between positive childhood experiences and alexithymia. The research was conducted with a total of 507 participants, including 259 women and 248 men aged over 18, selected through convenience sampling. Data were collected using a Personal Information Form, the Positive Childhood Experiences Scale, the Toronto Alexithymia Scale, and the Sense of Coherence Scale. Data analysis was performed using SPSS 25 and the PROCESS macro. The results indicated that positive childhood experiences significantly and positively predicted levels of sense of coherence, while they significantly and negatively predicted alexithymia. Furthermore, the sense of coherence was found to significantly and negatively predict alexithymia. It was also found that the sense of coherence mediated the relationship between positive childhood experiences and alexithymia.

Keywords: Positive childhood experiences, alexithymia, sense of coherence, mediation

Introduction

Childhood is one of the most critical stages in a person's life (Güçlü, 2016). Childhood experiences play a significant role in shaping an individual's judgments about their own life, their relationship with their social environment, and their subjective well-being, ultimately influencing their behavior in adulthood (Adler, 2017; Cüceloğlu, 1998).

Childhood experiences can be either positive or negative. Positive childhood experiences include events and emotions during childhood that foster feelings of stability, support, security, recognition, warmth (such as happiness and love), constructiveness, and fairness, with effects that can last into adulthood (Doğan & Aydın, 2020; Sege & Browne, 2017). The World Health Organization emphasizes that the definition of a healthy individual should not merely be the absence of illness, but the presence of holistic (physical, mental, and social) well-being (WHO, 2024). Positive experiences, as determinants of psychological well-being (Coffey, et al., 2015), are essential for individuals to maintain wellness throughout life, including resistance to future physical and mental illnesses (Gündüz et al., 2018). Research indicates that individuals, enjoying positive experiences with caregivers during childhood, show fewer depressive symptoms, experience fewer chronic illnesses, and have better health outcomes in adulthood (Chopik & Edelstein, 2019). Positive experiences also lay the foundation for healthy brain development and the acquisition of a broad range of learning and skills (Shonkoff & Garner, 2011).

The literature shows that positive childhood experiences are positively associated with self-esteem and psychological well-being (Kocatürk & Çiçek, 2021), happiness (Tunca, 2022; Doğan & Yavuz, 2020), perceptions of organizational identity (Polat et al., 2022), individual creativity and self-respect (Taş, 2022), friendship relations (Yılmaz, 2021), emotional intelligence and emotional regulation skills (Tekay-Kara, 2022), life satisfaction (Üstün, 2022), self-compassion (Toraman, 2022), and lower substance use (Graupensperger et al., 2023; Kosterman et al., 2011). Additionally, positive childhood experiences are linked with family social and emotional health processes, family healthy lifestyle, family health resources, and family external social supports (Daines et al., 2021), while showing a negative association with an individualistic self-concept (Gunay-Oge et al., 2023). Moreover, these experiences are found to mitigate the development and increase of adverse childhood experiences (Yu et al., 2022). Negative childhood experiences, on the other hand, are associated with physical (Gündüz et al., 2018) and psychological health issues (Gündüz & Gündoğmuş, 2019), behavioral problems (Silverman et al., 1996), substance use (Dupe et al., 2003; Anda et al., 1999), social and emotional regulation problems (Infurna et al., 2015), and alexithymia (Yüksel & Yavuz, 2023; Böçkün, 2021).

Positive Childhood Experiences and Alexithymia

One of the variables associated with adverse childhood experiences is alexithymia (Berenbaum, 1996; Honkalampi et al., 2020). Emotions play a significant role in an individual's life, highlighting alexithymia as a concept closely linked to emotional challenges (Koçak, 2002). First introduced by Sifneos (Sifneos, 1996), alexithymia means "lack of words for feelings" (Dereboy, 1990). It describes a psychological dysfunction in which individuals struggle not only with recognizing and verbally expressing their emotions but also with an impaired capacity for imagination (Matsumoto, 2009; Taylor, 1984). People with alexithymia have difficulty perceiving, distinguishing, expressing, and naming emotions, which significantly impacts their daily lives (Kano & Fukudo, 2013; Motan & Gençöz, 2007; Way et al., 2007; Sifneos, 1972). They cannot differentiate physical sensations from emotions (Nemiah et al., 1977; Sifneos, 1973) and exhibit limited gestures and facial expressions, experiencing challenges in identifying emotions such as anxiety, depression, and sadness, as well as positive feelings like happiness and joy (Taylor & Bagby, 2021; Taylor, 1995).

The previous literature has documented that emotional neglect and maltreatment (physical, emotional, sexual abuse) in childhood are positively associated with alexithymia in adulthood (Ditzer et al., 2023), impaired explicit memory (Özkol & Pakyürek, 2021), fear of happiness (Şibka, 2022), low academic achievement (Özmen, 2022), reduced life satisfaction, frequent depression (Honkalampi et al., 2000), and maladaptive emotion regulation (Preece et al., 2023). Conversely, alexithymia is negatively related to subjective well-being (Ünüböl et al., 2020), expressive ability (Yalçın & Hamarta, 2013), and adaptive emotion regulation (Preece et al., 2023). Due to the relationship between childhood adversity and alexithymia (Honkalampi et al., 2004), positive childhood experiences may serve as a protective factor against alexithymia. Studies by Pachi et al. (2022) on outpatients with schizophrenia and Yıldız (2020) with university students found a negative correlation between alexithymia and sense of coherence, suggesting that sense of coherence might be protective against alexithymia in both clinical and general populations.

Alexithymia, characterized by difficulty in recognizing, articulating, and externally processing emotions and a tendency to focus on the external rather than the inner emotional world (Preece et al., 2024), is closely linked to childhood neglect and abuse

(Ditzer et al., 2023). Factors such as family emotional climate (Stoudemire, 1991), sociocultural influences (Sifneos, 1983), and unhealthy parent-child relationships that disrupt self-representation development (McDougall, 1982) contribute to alexithymia symptoms. Given the link between adverse childhood experiences and alexithymia (Honkalampi et al., 2004), positive childhood experiences may act as a protective factor against alexithymia. Studies have shown that as positive childhood experiences increase, so do emotional intelligence, emotion regulation abilities (Tekay-Kara, 2022), happiness (Tunca, 2022), and family social and emotional health levels (Daines et al., 2021). While positive childhood experiences emerge as a protective factor against mental health issues like alexithymia, they may also strengthen an individual's sense of coherence (Antonovsky, 1987), enhancing resilience against adversity.

Sense of Coherence as a Mediator

The sense of coherence is defined as an individual's resilience and coping ability in the face of adversity, a fundamental factor for health (Antonovsky, 1987). It comprises three core components: comprehensibility, manageability, and meaningfulness. Comprehensibility reflects one's ability to perceive and systematically understand stressors and their variables (Kvåle & Synnes, 2013). Manageability denotes one's belief in the availability of coping resources and their application in daily life (Løndal, 2010), while meaningfulness pertains to the motivation to confront challenges persistently and consciously (Mayer, 2023; Moknes, 2021; Antonovsky, 1987). A strong sense of coherence equips individuals with greater potential to handle stress and fosters healthier responses to stressors (Antonovsky, 1991).

According to the results of the previous studies, sense of coherence is negatively associated with depressive symptoms (Yano et al., 2019), loneliness (Schäfer et al., 2021), and negative affect (Öztekin, 2008), while showing positive associations with self-efficacy, mental health (Calandri et al., 2018), extraversion, conscientiousness, openness, agreeableness (Barańczuk, 2021), life satisfaction (Ilbigi-Ghale-Nee & Kiamarsi, 2012), and emotional support (Goçalves-Pereira et al., 2021).

It is well-established that childhood experiences have significant effects on an individual's later stages of life (Burger, 2006) and lead them to develop unique behaviors as a result of these interactions (Altıntaş, 1992). Therefore, reducing or

eliminating the adverse effects of childhood experiences and identifying variables that influence and are influenced by these experiences are critical.

Given the impact of positive childhood experiences and strong sense of coherence on mental health, it is plausible that both factors can influence alexithymia. Understanding these relationships could improve insight into alexithymia and highlight protective mechanisms. The lack of studies investigating the possible association between these variables makes this research significant. Therefore, this study aims to explore the mediating effect of sense of coherence in the relationship between positive childhood experiences and alexithymia. To achieve this aim, the following questions will be addressed:

1. Do positive childhood experiences predict alexithymia?
2. Do positive childhood experiences predict sense of coherence?
3. Does sense of coherence predict alexithymia?
4. Does sense of coherence mediate the relationship between positive childhood experiences and alexithymia?

In line with these sub-problems, a mediation model has been developed, as presented in Figure 1.

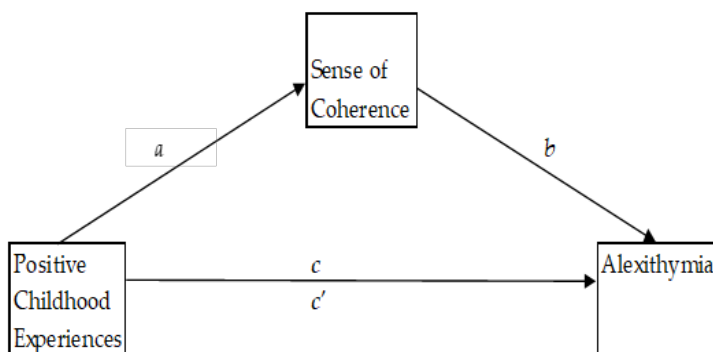


Figure 1. A model proposed for the mediating role of sense of coherence in the relationship between positive childhood experiences and alexithymia in adults.

According to the proposed model, “a” represents the effect of positive childhood experiences on sense of coherence; “b” indicates the effect of sense of coherence on alexithymia; “c” denotes the effect of positive childhood experiences on alexithymia;

and “c¹” demonstrates the effect of positive childhood experiences on alexithymia after the inclusion of the sense of coherence as a mediator variable in the model.

Methodology

Research Design

This study employs a correlational design to investigate the mediating effect of sense of coherence in the relationship between positive childhood experiences and alexithymia in adults. The mediation model is applied to analyze the relationships between variables. Mediation analysis is a statistical technique used to examine whether another variable fully or partially explains the relationship between two other variables (Şimşek, 2007). In other words, mediation analysis assesses the effect of the independent variable on the mediator, the effect of the mediator on the dependent variable, and the impact of the independent variable on the dependent variable through the mediator (Fiedler et al., 2011). A full mediation effect occurs when the effect of the independent variable on the dependent variable drops to zero upon including the mediator, whereas a significant reduction in effect suggests partial mediation (Yılmaz & Dalbudak, 2018). Partial mediation allows for an indirect effect to emerge as significant. In the social sciences, partial mediation is often considered more realistic than full mediation since behaviors typically have multiple causes (MacKinnon, 2012).

Participants

A power analysis was conducted to determine the required sample size. Using G*Power 3.1.9.7 software, a priori power analysis indicated that a sample size of 89 would be sufficient for a medium effect size ($f^2 = 0.15$; $\alpha = 0.05$; power = 0.95). Our sample consisted of/covered 507 participants: 259 (51.1%) females and 248 (48.9%) males. Out of these, 112 (22.1%) are aged 18-25, 60 (11.8%) are 26-30, 76 (15.0%) are 31-35, 58 (11.4%) are 36-40, 120 (23.7%) are 41-50, and 81 (16.0%) are 50 or older. Participants' income levels vary, with 115 (22.7%) reporting low, 339 (66.9%) medium, and 53 (10.5%) high income. Regarding marital status, 179 (35.3%) are married, 283 (55.8%) single, 36 (7.1%) divorced, and 9 (1.8%) widowed. In terms of education, 35 (6.9%) have elementary education, 21 (4.1%) middle school, 122 (24.1%) high school, 258 (50.9%) university, 56 (11.0%) master's, and 15 (3.0%) doctoral degrees. The

sample excludes individuals with clinical diagnoses and those under 18 years old. In the personal information form, participants were asked whether they had any psychiatric diagnoses, and data from those with diagnoses were excluded from the analysis. The study data were collected online from individuals over the age of 18.

Data Collection Instruments

Positive scale of childhood experiences: Developed by Bethell et al., (2019) and adapted into Turkish by Çiçek and Çeri (2021). The scale comprises 7 items in a single sub-dimension. Exploratory factor analysis (explained variance: 45.22%) and confirmatory factor analysis (RMSEA: .076; X^2/df : 2.25; IFI: .96; GFI: .97; CFI: .97; RMR: .76; NFI: .96) indicate that the scale is valid. The Cronbach's alpha reliability coefficient for the scale is .78, with a reliability coefficient of .74 for this study.

Toronto Alexithymia Scale (TAS-20): Developed by Bagby et al. (1994) and adapted to Turkish by Güleç et al. (2009). The scale includes 20 items across three sub-dimensions. Exploratory factor analysis (explained variance: 31.0%) and confirmatory factor analysis (RMSEA: .079; AGFI: .84; GFI: .87; $df=167$, $X^2=564.09$) support its validity. The Cronbach's alpha reliability coefficient for the scale is .78, with a reliability coefficient of .76 in this study.

Sense of Coherence Scale: Developed by Antonovsky (1987) and adapted to Turkish by Scherler and Lajunen (1997). The scale consists of 13 items in three sub-dimensions, accounting for 28% of the total variance. The reliability coefficient (Cronbach's alpha) for this study is .70.

Data Collection and Analysis

Data was collected directly from adult participants aged 18 and above on a voluntary basis. Participants were informed that data would be used solely for scientific purposes and kept confidential. Ethical approval was obtained from the university ethics committee (31.08.2022-2022/7). SPSS and its PROCESS extension were used to analyze the data, with the PROCESS macro conducting non-parametric bootstrapping (95% confidence interval, 5,000 resamples) (Preacher et al., 2007; Hayes, 2012). Direct, indirect, and total effect scores of the independent variable on the dependent variable were calculated. Bootstrapping confidence intervals indicate the mediator effect, with

the mediation effect confirmed if the lower and upper limits (BootLLCI-BootULCI) do not contain zero (Muller Prado et al., 2014).

Findings

Descriptive statistics and correlations associated with the variables were initially provided as part of the research. The findings derived from the study data are presented in Table 1.

Table 1. Correlation Values with Statistical Data of Variables

Variables	N	X/SD	Skewedness - Kurtosis	Positive Childhood Experience s	Alexithymi a	Sense of Coherenc e
Positive Childhood Experience s	50 7	33,28/5,617	-,403 ,372	1	-,193**	,241**
Alexithymi a	50 7	50,426/9,539	-,385 ,076		1	-,456**
Sense of Coherence	50 7	53,581/10,53 2	,952 ,105			1

****p<.01; N= 507**

According to Table 1, the skewness and kurtosis values of the variables vary between -,403 and ,952. According to the results of the correlation analysis, it was determined that there was a significant negative relationship between positive childhood experiences and alexithymia levels ($r=-.193$, $p<.01$), a significant and positive relationship between positive childhood experience levels and sense of coherence levels ($r=.241$, $p<.01$), and a negative and significant relationship between sense of coherence levels and alexithymia levels ($r=-.456$, $p<.01$).

It was observed that the relationships among the variables met the basic requirements for the mediation model. Prior to the mediation analysis, multiple regression assumptions for the variables were tested. The linearity assumption was checked via a scatter plot and was found to be met. The Variance Inflation Factor (VIF) and tolerance values were examined to assess multicollinearity. The VIF value was below 10 (1.039), and the tolerance value was above 0.10 (0.963), indicating no multicollinearity issues (Topal et al., 2010; Karaoğlu, 2019).

The mediation model examining the mediating effect of sense of coherence in the relationship between positive childhood experiences and alexithymia in adults is presented below (Figure 2).

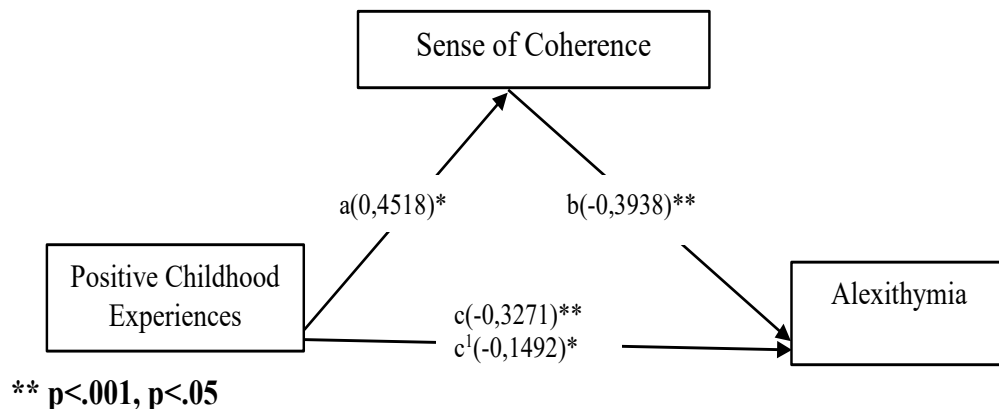


Figure 2. Proposed model for the mediating role of sense of coherence in the relationship between positive childhood experiences and alexithymia in adults.

In Figure 2, the mediating effect of sense of coherence in the relationship between positive childhood experiences and alexithymia is illustrated through paths *a*, *b*, *c*, and *cI*, along with the standardized regression coefficients. Three conditions were proposed for the mediation model: the independent variable should predict both the dependent and mediator variables, and the mediator variable should predict the dependent variable. When the mediator variable is included in the analysis with the independent variable, the effect of the independent variable on the dependent variable should reduce to zero or decrease. If the effect of the independent variable on the dependent variable is reduced to zero when the mediator is included, this is defined as full mediation; a decrease indicates partial mediation (Baron & Kenny, 1986).

In line with these criteria, it was found that positive childhood experiences positively predicted sense of coherence ($a = 0.4518^{**}$; 95% CI [0.2927, 0.6109]), that sense of coherence negatively predicted alexithymia ($b = -0.3938^{**}$; 95% CI [-0.4662, -0.3215]), and that positive childhood experiences negatively predicted alexithymia ($c = -0.3271^{**}$; 95% CI [-0.4728, -0.1814]). When positive childhood experiences were included in the analysis along with the mediator variable, the regression coefficient between positive childhood experiences and alexithymia was $cI = -0.1492^{*}$; 95% CI [-

0.2848, -0.0135]. A significant decrease was observed when sense of coherence was included in the mediation model ($c = -0.3271$ to $cI = -0.1492$).

To determine whether the reduction due to the inclusion of the mediator variable was attributable to the mediator's effect, direct, indirect, and total effect data and bootstrap confidence intervals were examined.

Table 2. Data on the Direct, Indirect, and Total Effects of the Independent Variable on the Dependent Variable and Bootstrap Confidence Interval Data

The Mediating Effect of a Sense of Coherence	Total effect	Direct effect	Indirect effect	Bootstrap Confidence Interval		Type of Mediator
				BootLLCI	BootULCI	
Positive Childhood Experiences-Alexithymia	-0,3271**	-0,1492*	-0,1779	-,2572	-,1070	Partial

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

Table 2 presents the total, direct, and indirect effect values of positive childhood experiences on alexithymia. Based on the results, the total effect of positive childhood experiences on alexithymia was found to be -0.3271 ($p < 0.000$), with a direct effect of -0.1492 ($p < 0.05$) and an indirect effect of -0.1779. The bootstrap confidence interval [-0.2572, -0.1070] does not include zero, indicating statistical significance. This suggests that sense of coherence partially mediates the relationship between positive childhood experiences and alexithymia.

Discussion and Conclusion

The behaviors, perceptions, feelings, and experiences carried from childhood into adulthood play a critical role in shaping an individual's behaviors in adulthood (Cüceloğlu, 1998). This study investigated the mediating effect of sense of coherence in the relationship between positive childhood experiences and alexithymia in adults, finding partial mediation by sense of coherence in this relationship.

According to the study findings, positive childhood experiences negatively predict alexithymia. While there are no studies in the literature specifically examining positive childhood experiences and alexithymia, several studies indicate a significant and positive relationship between negative childhood experiences—such as adverse childhood events (Yüksel & Yavuz, 2023; Böçkün, 2021), childhood trauma (Büyükcebeci, 2019), and neglect—and alexithymia (Gülle-Düzenli, 2020; Akpınar & Gümüş-Demir, 2022). These findings imply that children who experience emotional and physical neglect or have unmet needs in childhood may exhibit alexithymic symptoms later in life. Therefore, positive behaviors from parents and caregivers toward children may enhance positive life experiences and reduce or prevent alexithymic symptoms.

Positive childhood experiences also positively predict sense of coherence. Literature indicates that attachment styles (Kule, 2022), life satisfaction (Çeçen, 2008), psychological resilience (Doğan & Yavuz, 2020), happiness (Tunca, 2022), and mental health (Kuwato & Hirano, 2020) significantly predict sense of coherence. Moreover, a significant relationship between psychological well-being and sense of coherence has been observed (Fernández-Martinez et al., 2019). These findings suggest that positive emotions and experiences such as secure attachment, happiness, life satisfaction, and psychological well-being enable individuals to find life more meaningful, understandable, and manageable in the face of challenges.

Another key finding was that sense of coherence negatively predicts alexithymia. The literature also reports a negative relationship between alexithymia and sense of coherence (Allah-Gholilo et al., 2015; O'Carroll et al., 2003). Given the positive impact of sense of coherence on mental health (Zhang et al., 2023), it may help alleviate negative mental health aspects related to alexithymia.

This study found partial mediation by sense of coherence in the relationship between positive childhood experiences and alexithymia. Although some studies have found no significant mediating role for sense of coherence in certain contexts, such as perceived stress and anxiety (Güngör, 2022), sense of coherence has been shown to partially mediate the relationships between self-differentiation and alexithymia (Yıldız, 2020) and between mindfulness and stress responses (Ando et al., 2023). Additionally, a negative relationship has been found between alexithymia and sense of coherence

(Yıldız, 2020; Ilbigi-Ghale-Nee & Kiamarsi, 2012), with low sense of coherence and high alexithymia identified as significant risk factors for quality of life (Sancassiani, 2017). Based on these findings, sense of coherence may enable individuals to systematically and thoughtfully address problems and seek solutions. Thus, when positive childhood experiences fall short and individuals struggle with difficulties in recognizing and expressing emotions associated with alexithymia, a strong sense of coherence can serve as a healthy coping mechanism.

In conclusion, this study demonstrates that sense of coherence partially mediates the relationship between positive childhood experiences and alexithymia.

Limitations and Recommendations

In light of the study results, several limitations have been identified, and recommendations have been made for researchers, educators, and professionals, considering these limitations. This study has got a few notable limitations. The findings of this study may have limited generalizability to broader adult populations, as the sample is drawn from a specific age range and cultural context. Future studies could be conducted to aim for a more diverse sample to enhance generalizability. Since the study is cross-sectional, it captures relationships at a single point in time, which limits conclusions about causality. Longitudinal studies are recommended to observe changes over time and better assess causality. Data collection relied on self-reported questionnaires, which can introduce response biases such as social desirability. Future studies could use mixed methods, combining qualitative interviews or observational data, to enhance reliability and depth.

Clinicians working with individuals displaying alexithymic symptoms should consider the role of sense of coherence and positive childhood experiences in their therapeutic approaches. Understanding these aspects could facilitate better treatment outcomes. Educators and counselors can play a crucial role in fostering supportive environments that enhance children's positive experiences, thereby reducing the likelihood of alexithymic traits in adulthood. Efforts should be made to involve parents in activities aimed at developing children's positive skills and attributes. This includes educating parents on the significance of their behaviors in contributing to their children's positive experiences. Given the significant relationship between perceived parenting styles and

positive childhood experiences (Bilgin et al., 2021), psycho-educational programs could be developed to inform families about effective parenting strategies. This can help mitigate the adverse thoughts and feelings stemming from unhealthy family relationships, which may influence future generations (Yavuzer, 2006). Finally, investigating the relationships between positive childhood experiences, alexithymia, sense of coherence, mental health, psychological resilience, and life satisfaction could enhance the understanding of these constructs and their interconnections.

Compliance with Ethical Standards

Disclosure of potential conflicts of interest

Author/s declare that they have no conflicts of interest.

Research involving Human Participants and/or Animals:

This study was conducted in strict accordance with the ethical standards of the Declaration of Helsinki and was approved by the Human Research Ethics Committee at The University of Sabahattin Zaim (Project number: 28.05.2021/2021/05).

Informed consent

All participants in this study were informed and their written informed consent was obtained.

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