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When Childhood Hurts: Exploring the Link Between Adverse Childhood Experiences and Self-Concealment in the Context of Parenting Styles

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Abstract

This study examined the direct associations among adverse childhood experiences (ACEs), perceived parenting styles (authoritative, authoritarian, permissive) and self-concealment, and tested whether parenting styles moderate the effect of ACEs on self-concealment among young adults in India. Early life adversity is a known risk factor for maladaptive coping. While parenting styles are independently associated with developmental outcomes, their role in moderating the effects of ACEs on secrecy-related coping in young adulthood remains less understood, particularly in non-Western contexts. This study posits that authoritative parenting would buffer, while authoritarian and permissive parenting would exacerbate the positive association between ACEs and self-concealment. Data were collected from a sample of 307 young adults aged 18-25 in India. Participants completed validated assessments measuring their experiences of ACEs, perceived parenting styles, and self-concealment. Results showed that ACEs, authoritarian parenting, and permissive parenting were all significant positive predictors of self-concealment, whereas authoritative parenting was a significant negative predictor. However, none of the parenting styles moderate the relationship between ACEs and self-concealment, indicating additive rather than interactive effects. Although parenting styles did not function as moderators in this sample, their strong main effects suggest the protective role of supportive caregiving in reducing emotional secrecy and emphasize the need for trauma-informed interventions and culturally sensitive parenting education in the Indian context.

Keywords Adverse childhood experiences • Perceived parenting styles • Self-concealment • Young Adults

Introduction

The period of young adulthood marks a critical developmental phase characterized by significant life changes and the establishment of lasting behaviors. During this time, individuals navigate increasing autonomy, explore their identities, form intimate relationships, and establish career paths (Arnett, 2000). Childhood adversity is a powerful determinant of long-term health. The framework of developmental psychopathology posits that early harmful experiences during sensitive periods can disrupt development (McLaughlin, 2016). The landmark Adverse Childhood Experiences (ACEs) study revealed that such experiences are remarkably common, and their effects are cumulative, dramatically increasing the risk for adult depression, substance abuse, and other chronic health problems (Felitti et al., 1998). Over half of adult participants reported at least one ACE, and their research established a strong, graded "dose-response" relationship: the more ACEs experienced, the higher the risk of these negative health outcomes in adulthood. ACEs, which can be categorized as experiences of threat (e.g., abuse) or deprivation (e.g., neglect), erode a child's sense of safety and trust, teaching them that the world is dangerous and that expressing

needs can lead to conflict or rejection (Narayan et al., 2017). Consequently, individuals exposed to ACEs often develop maladaptive coping mechanisms like emotional suppression.

Indeed, research by Criddle et al. (2022) demonstrated that self-concealment statistically mediates the relationship between ACEs and two key relational outcomes: lower relationship closeness and a greater fear of intimacy. This suggests that individuals with a history of ACEs learn to hide vulnerable parts of themselves, and this very act of concealment prevents them from forming the close, trusting bonds that define healthy intimate relationships. Other studies corroborate this, finding a direct correlation between higher ACE scores and higher fear of intimacy scores in young adults (Aggarwal & Dutt, 2024). The relational patterns learned in a dysfunctional family environment such as poor conflict resolution and emotional expression, are carried into adult relationships, leading to more conflict and less cohesiveness and expressiveness (Hazra & Kewalramani, 2022).

This tendency toward self-concealment, a key consequence of early adversity, is a critical construct in its own right. In this intricate developmental setting, self-concealment, defined as a predisposition to actively conceal from others personal information perceived as distressing or negative (Larson & Chastain, 1990) can have a major impact, serving either as a coping mechanism or as a significant source of distress. This trait is distinct from simply being non-disclosing; it involves the active, conscious hiding of information, often through strategies like avoidance or omission (Smetana et al., 2019) and is empirically distinct from self-disclosure (Cramer & Barry, 1999). The investigation into this construct gained significant momentum with the introduction of The Self-Concealment Scale (SCS) by Larson and Chastain (1990), a psychometrically robust instrument that has since been validated across numerous cultures. Although concealing problems may offer short-term relief, a large body of empirical research consistently links higher self-concealment to a host of adverse health consequences, including increased physical symptoms, depression, anxiety, and suicidality, even after controlling for factors like trauma and social support (Larson & Chastain, 1990; Salinas-Oñate, 2024; Sease, 2021).

Findings from longitudinal studies, such as the National Longitudinal Study of Adolescent to Adult Health and the Rochester Adult Longitudinal Study (RALS), demonstrate that concealment and disclosure patterns established in adolescence have lasting impacts on young adulthood (Mitchell et al., 2021). There is a clear continuity of concealment; for example, self-silencing (inhibiting self-expression) in adolescence is a significant predictor of greater concealment in romantic relationships at age 23 (Samardzic,2025). Adolescent ego-development also shows a lasting impact; youth on a 'profound arrest' developmental trajectory report less emotional sharing and more egocentric conflict resolution in their relationships at age 25 compared to those on an 'accelerated' trajectory (Mitchell et al., 2021). This suggests that lower levels of development during adolescence can lead to missed opportunities to gain social experience, resulting in continued difficulties in adult social interactions.

While ACEs provide a foundational context for the development of concealment, childhood family environments and specific parenting practices are also prime influences on young adults' coping styles. Parenting, a dynamic process involving child-rearing practices and the emotional climate provided by parents (Tripathi & Jadon, 2017), plays a pivotal role. Diana Baumrind's (1971) seminal framework, later expanded by Maccoby and Martin (1983), categorizes parenting into three styles based on dimensions of demandingness (control) and responsiveness (warmth): authoritative, authoritarian and permissive. A fourth parenting style was later included, in which parents

exhibited low demandingness and low warmth in their behaviour. These early experiences implicitly teach children about communication and vulnerability. For instance, an authoritative style, marked by warmth and autonomy support, is associated with greater disclosure and honesty (Darling et al., 2006; Roth et al., 2009). Conversely, psychologically controlling parenting, a hallmark of the authoritarian style, is consistently linked to increased secrecy and concealment, as adolescents may use it as a strategy to assert autonomy (Soenens et al., 2006; Baudat et al., 2022). The impact of permissive parenting is more nuanced and appears to be gender specific. While the unstructured environment can lead to poor self-regulation, a key study by Kuckertz, Carter, and Ichiyama (2021) found that a more permissive maternal parenting style was associated with greater self-concealment specifically in male college students. Researchers theorize this may be due to the lack of parental monitoring inherent in this style, leading sons to be less forthcoming.

A key theoretical framework explaining these dynamics is Self-Determination Theory (SDT), which posits that individuals have fundamental psychological needs for autonomy, competence, and relatedness. According to SDT, parenting behaviors that support these needs (e.g., autonomy support) lead to voluntary, honest disclosure as the adolescent feels respected and connected. In contrast, behaviors that thwart these needs (e.g., psychological control) lead to concealment and lying as the adolescent attempts to protect their sense of self and autonomy (Weinstein et al., 2021).

The rationale for testing parenting style as a moderator rests on three converging theoretical traditions. Darling and Steinberg's (1993) integrative model defines parenting style not as a discrete practice with its own direct effect but as the emotional climate or context within which other socializing influences are received, explicitly proposing that style moderates the impact of those influences on the child. Applied here, the same objective adversity may carry different meanings, and elicit different coping, depending on whether it occurs within a warm, autonomy-supportive climate or a hostile or disengaged one. Second, the stress-buffering hypothesis proposes that supportive relational resources attenuate the impact of stressors on adjustment (Cohen & Wills, 1985), and resilience frameworks identify protective factors that operate specifically in the presence of risk by weakening the risk-outcome association (Luthar et al., 2000; Rutter, 1987). Third, as outlined above, self-determination theory holds that need-supportive parenting fosters voluntary disclosure whereas psychologically controlling parenting fosters concealment. Because ACEs may teach children that expressing needs risks conflict or rejection (Narayan et al., 2017), an authoritative environment may provide experiences that disconfirm this lesson and weaken the tendency to conceal, whereas an authoritarian environment may confirm it and strengthen that tendency.

Empirically, parenting has been tested as a moderator of the effects of adversity, with genuinely mixed results, which is itself a reason to test rather than assume. Schofield et al. (2013) found meta-analytic evidence that safe, stable, nurturing relationships moderate intergenerational continuity of maltreatment, and in a large population-based German sample, Witt et al. (2026) reported that maternal control significantly amplified the association between maltreatment exposure and mental health problems, although maternal warmth operated additively rather than interactively. Conversely, Chainey et al. (2022) found that effective parenting predicted adolescents' future orientation strongly but did not moderate the effect of childhood adversity. Within the adversity-and-concealment literature specifically, Sease et al. (2023) demonstrated that a dispositional avoidance variable, psychological

inflexibility, moderated the association between ACEs and negative automatic thoughts, establishing that interaction effects in this domain are at least detectable in principle. Given this genuinely unsettled evidence base and the fact that, to our knowledge, no study has examined parenting style as a conditional influence on the ACEs-self-concealment link in a non-Western context, we treated the compensatory (additive) and protective (moderating) models as competing rather than nested predictions.

The Present Study

Therefore, the current study aimed to extend understanding of how early familial environments relate to secrecy-related coping by examining perceived parenting styles (authoritarian, permissive, and authoritative), adverse childhood experiences (ACEs), and their interactive influence on self-concealment in young adulthood. Specifically, the study sought to: (a) assess the direct association between ACEs and self-concealment, b) examine associations between ACEs and levels of perceived parenting styles, and (c) investigate the relationship between levels of perceived parenting styles and self-concealment. Beyond these main associations, the study tested moderation hypotheses to determine whether different parenting styles alter the strength or direction of the ACEs→self-concealment link.

We hypothesized that higher levels of authoritative parenting would attenuate the positive association between ACEs and self-concealment, such that young adults reporting greater authoritative parenting would show a reduced tendency to conceal distress despite higher ACE exposure. Conversely, we hypothesized that higher levels of authoritarian parenting would amplify the association between ACEs and self-concealment, so that ACE exposed individuals reporting greater authoritarian parenting would exhibit greater concealment. Finally, we hypothesized that higher levels of permissive parenting would similarly strengthen the ACEs and self-concealment relationship. These moderation tests will clarify whether supportive, structured caregiving buffers the secrecy-promoting effects of early adversity, whereas controlling or lax caregiving exacerbates them.

Method

Sample

A total of 307 individuals participated in the study. Eligibility criteria required participants to be (a) between the ages of 18 and 25 years, and (b) citizens of India with proficiency in English. Participants were recruited online using a combination of purposive and snowball sampling techniques. Initial participants who were known to meet the eligibility criteria were invited to participate, and upon completion, they were asked to refer other eligible individuals from their networks.

The sample was predominantly female (68.7%), and most participants had completed or were pursuing a master's degree (62.2%). Most participants reported coming from a nuclear family (71.0%), and the largest proportion reported a monthly family income in the ₹50,000–1.25 lakh range (41.7%). Most participants' mothers (45.6%) and fathers (46.9%) had completed a graduate-level education. Full demographic characteristics of the sample are presented in Table 1.

Table 1 Demographic characteristics of the sample

	n	*%*
Age		
18–25	307	100
Gender		
Female	211	68.7
Male	87	28.3
Agender	1	0.3
Prefer Not to Say	8	2.6
Educational Qualifications		
Senior Secondary (Class 12th)	6	2.0
Bachelor's	93	30.3
Master's	191	62.2
Pursuing PhD	1	0.3
Doctorate	16	5.2
Family Income per Month		
Less than ₹15,000	10	3.3
₹15,000–50,000	57	18.6
₹50,000–1.25 lakh	128	41.7
₹1.26–2.5 lakh	70	22.8
Above ₹2.6 lakh	42	13.7
Type of Family		
Nuclear family	218	71.0
Joint family	59	19.2
Extended family	15	4.9
Single-parent family	15	4.9
Childhood environment (raised in)		
Two-parent home (both working)	123	40.1
Two-parent home (one working)	133	43.3
Primary caregiver (grandparents/uncle/aunt)	31	10.1
Single-parent home	18	5.9
Others (retired parents)	2	0.6
Marital status of parents		
Married, living together	255	83.1
Married, living separately	13	4.2
Single	32	10.4
Divorced	7	2.3
Education of mother		
Illiterate	7	2.3
5th grade	1	0.3
10th grade	31	10.1
12th grade	53	17.3
Graduate	140	45.6

Postgraduate	69	22.5
Doctorate	3	1.0
Education of father		
Illiterate	2	0.7
10th grade	16	5.2
12th grade	26	8.5
Graduate	144	46.9
Postgraduate	111	36.2
Doctorate	6	2.0

Measures

Adverse Childhood Experiences

Exposure to childhood adversity was measured using the 10-item ACE Questionnaire (Felitti et al., 1998). This instrument retrospectively assesses exposure to 10 questions about adversities participants experienced before age 18. Each item is answered with 'Yes' or 'No'. A cumulative ACE score is calculated by summing the number of 'Yes' responses, yielding a total score ranging from 0 to 10, with higher scores indicating greater exposure to adversity categories. For instance, a good response for sexual assault would be worth one point regardless of the number of occurrences, duration, or severity of the abuse. Cronbach's alpha values for the scale were consistently above 0.70, indicating its strong reliability. Furthermore, it covers a broad spectrum of negative experiences and has good content validity.

Perceived Parenting Style

The Perceived Parenting Style Scale (Divya & Manikandan, 2013) is a 30-item self-report scale used to measure perceptions of parents' behavior across three styles: authoritative, authoritarian, and permissive (10 items each). Participants rate items on a 5-point Likert scale from Strongly Disagree (1) to Strongly Agree (5). Scores for each subscale are calculated by summing up the corresponding items, with higher scores indicating a stronger perception of that parenting style. A key strength of this instrument is its indigenous development in Kerala, India, making it culturally appropriate for the study's population. It has demonstrated good overall reliability (Cronbach's $\alpha = 0.87$) and test-retest reliability ($r = 0.84$), with its subscales also showing acceptable to good internal consistency in various Indian samples. The scale has demonstrated face and convergent validity against other established measures, such as the Parental Authority Questionnaire (PAQ).

Self-Concealment

Self-Concealment was measured using the Self-Concealment Scale (Larson & Chastain, 1990). It is a 10-item unidimensional scale that measures an individual's dispositional tendency to actively conceal personal information perceived as distressing or negative. Participants rate their agreement with each statement on a 5-point Likert scale from Strongly Disagree (1) to Strongly Agree (5). A total score is calculated by summing all 10 items, with scores ranging from 10 to 50. Higher scores indicate a greater tendency to engage in self-concealment. The scale has shown high internal consistency ($\alpha = .83$) and test-retest reliability ($r = .81$) in prior studies. A study with Indian college students reported excellent internal consistency (Cronbach's $\alpha = 0.923$), and a validation study in Pakistan confirmed its unidimensional factor structure and convergent validity with measures of depression and anxiety.

Procedure

Data were collected via a self-administered online survey created with Google Forms, as well as an offline questionnaire distributed to participants. The survey was structured into five sections. The first page presented the informed consent document, which included a content warning regarding the sensitive nature of the questions. Participants were required to provide digital consent to proceed. Offline participants provided signed written informed consent. Participation was voluntary, and confidentiality and anonymity were maintained throughout the study. The present study was conducted as part of the master's dissertation programme (M.A.) in Psychology, University of Delhi, under faculty supervision. When this research was conducted, anonymous questionnaire-based dissertation studies involving adult participants did not require separate approval from an Institutional Ethics Committee/Institutional Review Board. Instead, a departmental subcommittee of the department of Psychology, University of Delhi, was formed to review the study protocols. The research was conducted in accordance with the Helsinki ethical standards, which are also followed by the Department. Subsequent sections collected demographic information, followed by the Perceived Parenting Style Scale (PPSS), the Self-Concealment Scale (SCS), and finally the Adverse Childhood Experiences (ACE) Questionnaire, with the most sensitive content placed last. The survey took approximately 15-20 minutes to complete. Upon completion or withdrawal, participants were directed to a debriefing page that provided contact information for several national mental health helplines in India (e.g., Kiran, Tele MANAS) for support.

Data Analyses

All analyses were conducted via jamovi (The jamovi project, v.2.7). Descriptive statistics, reliability estimates, and assumption checks were computed first. Internal consistency (Cronbach's α) and the assumption of normality were examined for all continuous variables using skewness and kurtosis indices. As the variables were approximately normally distributed, Pearson's correlation was used for bivariate associations. To examine direct effects, a series of linear regression models were estimated. Finally, moderation analyses were conducted using the modelling tools in Jamovi. A bootstrapping procedure with 5,000 iterations was used to calculate 95% bias-corrected confidence intervals, and intervals that did not contain zero were deemed statistically significant.

Results

In this study, Adverse Childhood Experiences (ACEs) scores were treated as continuous variables. Scale reliabilities were acceptable (ACEs α = .826; Authoritative α = .843; Authoritarian α = .910; Permissive α = .915; Self-Concealment α = .894). Skewness and kurtosis coefficients, together with visual inspection of histograms and Q-Q plots, indicated that the study variables were approximately normally distributed. All skewness and kurtosis values fell within the acceptable ±2.0 range, supporting the assumption of univariate normality (George & Mallery, 2010). The descriptive statistics and correlations for the major variables are presented in Table 2. The mean score for ACEs among the 307 participants was 3.51 (SD = 2.84).

The correlation analysis, conducted using Pearson's r, revealed significant relationships among all variables. Specifically, ACEs demonstrated a significant positive correlation with self-concealment. Furthermore, a higher number of ACEs was significantly associated with lower perceived authoritative parenting and higher perceptions of

both authoritarian and permissive parenting. Regarding parenting styles, perceived authoritative parenting was negatively correlated with self-concealment, whereas both authoritarian and permissive parenting styles were positively correlated with self-concealment.

Table 2 Descriptive statistics and Pearson's correlations for major variables

Variables	M	SD	1	2	3	4	5
1. ACEs	3.51	2.84	1				
2. Authoritative	34.12	6.51	-0.54**	1			
3. Authoritarian	28.35	8.11	0.65**	-0.63 **	1		
4. Permissive	27.34	8.46	0.58**	-0.72**	0.75**	1	
5. Self-Concealment	33.57	7.96	0.33**	-0.38**	0.51**	0.45**	1

**$p < 0.001$, *ACEs* adverse childhood experiences

Table 3 presents the results of the regression analyses which tested the direct pathways among ACEs, parenting styles and self-concealment. ACEs significantly predicted higher levels of self-concealment and accounted for a modest portion of variance in concealment. ACEs predicted lower perceived authoritative parenting and higher perceived authoritarian and permissive parenting; each parenting dimension was also a significant predictor of self-concealment. Authoritative parenting was a negative predictor, while both authoritarian and permissive parenting were positive predictors.

To test the primary hypotheses, three separate moderation analyses were conducted to determine if each perceived parenting style altered the relationship between ACEs and self-concealment. Across separate models for authoritative, authoritarian and permissive parenting, parenting dimensions exerted reliable main effects on self-concealment but none of the ACEs × parenting interactions reached statistical significance (see Table 4). In the model testing Authoritative parenting, the interaction between ACEs and Authoritative parenting was not significant (B = 0.0205, Z = 0.650, p = .516), indicating that the strength of the ACEs → self-concealment relation did not vary as a function of perceived Authoritative parenting. In the Authoritarian model, the interaction term was likewise non-significant (B = 0.0186, Z = 0.912, p = .362). The Permissive model produced a similar pattern (B = -0.0041, Z = -0.185, p = .853). Simple-slope plots illustrating the ACEs and self-concealment relation at low (−1 SD) and high (+1 SD) levels of each parenting dimension are shown in Fig. 1. The figures illustrate that individuals reporting higher Authoritative parenting consistently show lower predicted self-concealment across the ACEs range, whereas those reporting higher Authoritarian or Permissive parenting show higher predicted self-concealment across ACEs. In all three cases, the slopes at low versus high parenting levels were approximately parallel, reflecting the presence of main effects of parenting style but with no evidence that any parenting dimension significantly moderates the effect of ACEs on self-concealment.

Table 3 Regression analysis

Model (DV)	Predictor	B	SE	t	R^2	p
Self-Concealment	ACEs	0.931	0.151	6.15	.110	< 0.001
Authoritative	ACEs	-1.240	0.111	-11.20	.291	< 0.001
Authoritarian	ACEs	1.850	0.125	14.80	.418	< 0.001
Permissive	ACEs	1.720	0.139	12.40	.335	< 0.001
Self-Concealment	Authoritative	-0.469	0.065	-7.24	.147	< 0.001
Self-Concealment	Authoritarian	0.502	0.048	10.40	.262	< 0.001
Self-Concealment	Permissive	0.424	0.048	8.82	.203	< 0.001

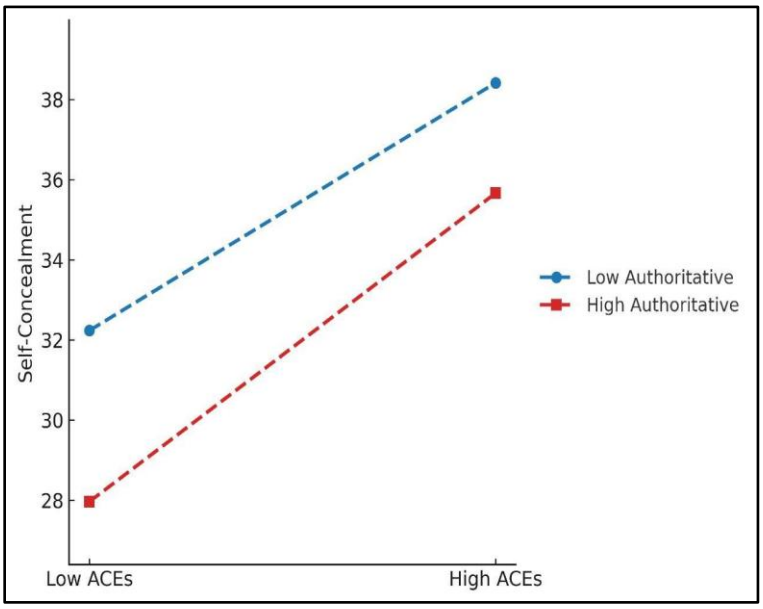
ACEs adverse childhood experiences

Table 4 Moderation analysis

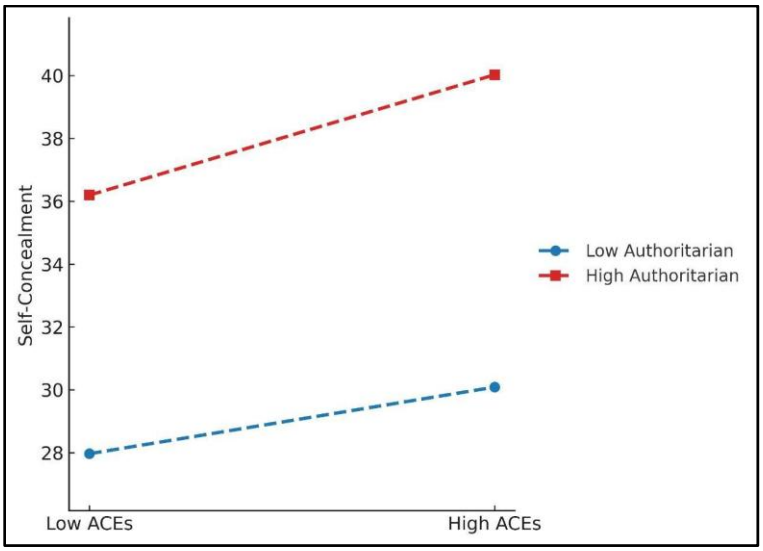
Model (Moderator)	Predictor Variables	B	SE	Z	p	95% CI
Authoritative	ACEs	0.5219	0.1966	2.654	0.008	[0.122, 0.893]
	Authoritative	-0.3416	0.0887	-3.853	< 0.001	[-0.524, -0.180]
	ACEs × Authoritative	0.0205	0.0316	0.650	0.516	[-0.043, 0.084]
Authoritarian	ACEs	-0.00258	0.1764	-0.015	0.988	[-0.336, 0.344]
	Authoritarian	0.49476	0.0716	6.915	< 0.001	[0.352, 0.629]
	ACEs × Authoritarian	0.01857	0.0204	0.912	0.362	[-0.021, 0.060]
Permissive	ACEs	0.30409	0.2083	1.460	0.144	[-0.112, 0.707]
	Permissive	0.36656	0.0690	5.313	< 0.001	[0.234, 0.504]

ACEs × Permissive	-0.00406	0.0219	-0.185	0.853	[-0.046, 0.040]

ACEs adverse childhood experiences, CI confidence interval

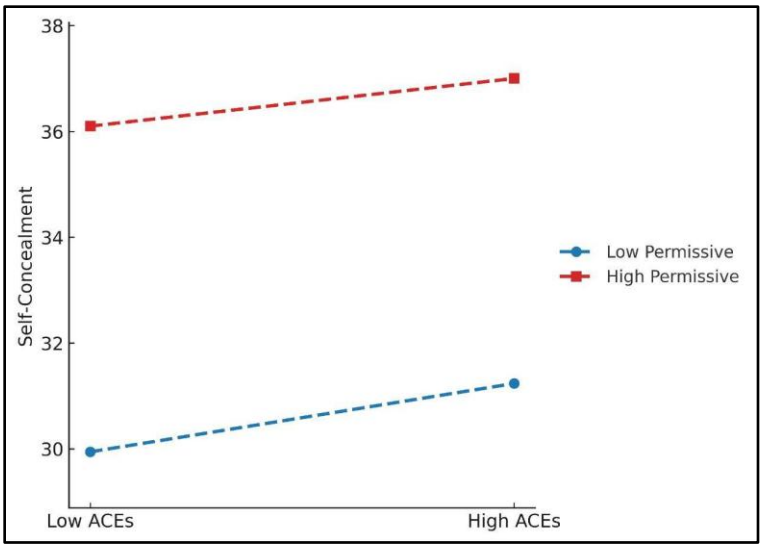


(a)



(b)

Fig. 1 Interaction slopes showing the moderating role of perceived parenting styles. Panel (a) shows the model for Authoritative parenting, panel (b) the model for Authoritarian parenting, and panel (c) the model for Permissive parenting.



(c)

Discussion

The present study aimed to investigate the distinct and overlapping roles of Adverse Childhood Experiences (ACEs) and perceived parenting styles in predicting self-concealment among young adults. Our findings indicate that both ACEs and perceived parenting were significantly associated with the tendency to hide distressing personal information. Specifically, we found that a higher count of ACEs and perceptions of authoritarian or permissive parenting were associated with greater self-concealment, whereas authoritative parenting was associated with less concealment. Contrary to expectations, parenting styles did not moderate the relationship between ACEs and self-concealment, suggesting these influences operate in an additive, rather than interactive, manner. These results contribute to the broader understanding of how early life experiences shape interpersonal coping strategies that persist into adulthood, highlighting key targets for resilience-building interventions. For example, Choudhary (2019) reported that adolescents with higher emotional intelligence had significantly greater resilience, suggesting that interventions aimed at strengthening emotional competencies could enhance coping capacity and mitigate the secrecy associated with childhood adversity.

Our finding of a direct, positive association between ACEs and self-concealment ($B = 0.931$, $R^2 = .110$) is highly consistent with contemporary literature. The magnitude of this this association is similar to that reported by Criddle (2022), who reported an unstandardized coefficient of $b = 1.01$ in a comparable sample of college students. This alignment provides strong external validation for our results, suggesting that each additional reported childhood adversity is associated with a reliable increment in the propensity to conceal. This study extends this link by situating it within a broader context of interpersonal functioning, where recent meta-analyses confirm that ACEs are linked to a wide spectrum of relational challenges, from general communication difficulties (Maloney et al., 2025) to severe outcomes like intimate partner violence (Zhu et al., 2024) and profound loneliness (Curtis et al., 2025).

The mechanism underlying this relationship is likely to be multifactorial. From a trauma-informed perspective, self-concealment emerges as a protective, albeit maladaptive, coping strategy. Individuals exposed to early, unpredictable, or threatening environments may learn that vulnerability is dangerous, leading to a default of emotional suppression and avoidance to manage overwhelming emotions (Gruhn & Compas, 2020). ACEs have also been linked to disruptions in the brain circuitry underlying emotional regulation, particularly in the prefrontal cortex and amygdala, which theoretically could increase reliance on maladaptive strategies to avoid distressing self-conscious emotions (Rollins & Crandall, 2021). Thus, our findings are consistent with the broader view that ACEs do not merely represent past events but may shape lasting relational patterns such as a tendency toward secrecy that persist into young adulthood.

Young adults with higher ACE scores tended to perceive their parents as more authoritarian ($R^2 = .418$) or permissive ($R^2 = .335$) and less authoritative ($R^2 = .291$). Because parents' own ACEs were not measured, these findings cannot speak to intergenerational transmission, but they are consistent with evidence linking parental adversity to harsher, less responsive parenting. These findings align with a robust body of evidence showing that parents' own histories of adversity shape their parenting practices. A systematic review by Rowell & Neal-Barnett (2021) concluded that parental ACEs are directly associated with lower emotional availability and the use of harsh, ineffective discipline. More recent work by Wattanatchariya (2024) provides a direct path model where parental ACEs predict greater use of corporal punishment and inconsistent discipline.

Our findings can be interpreted through the lens of attachment theory, which posits that parents' own unresolved trauma can impair their capacity to form secure attachments and provide the 'stable, safe, and nurturing relationships' foundational for resilience (Rowell, 2021; Zhu et al., 2023). Parents who experienced adversity may struggle with their own emotional regulation, depression, or dissociation, which in turn manifests as controlling (authoritarian) or disengaged (permissive) parenting behaviors (Rowell, 2021). Furthermore, chronic stress associated with a history of ACEs can diminish a parent's cognitive and emotional resources, making it difficult to engage in the demanding practices of authoritative parenting, which requires high levels of both warmth and structure (Weistra et al., 2024). Instead, they may default to the controlling behaviors of authoritarianism or the disengaged inconsistency of permissiveness, thereby creating an environment that increases their own children's risk of experiencing ACEs.

Perceptions of the parenting climate in turn continue to exert a powerful influence on disclosure patterns in young adulthood. The finding that authoritative parenting was associated with lower self-concealment ($r = -.38$, $p < .001$), whereas authoritarian ($r = .51$, $p < .001$) and permissive ($r = .45$, $p < .001$) styles were associated with higher self-concealment, is consistent with prior research. Authoritative parenting, with its combination of warmth, clear communication, and support for autonomy, creates a foundation for psychological safety that encourages openness (Darling & Steinberg, 1993).

Recent research adds significant nuance to these relationships, revealing important gender- and parent-specific dynamics. A study by Kuckertz et al. (2021) among college students found that, among females, lower self-concealment was associated with a more authoritative paternal style and a less authoritarian maternal style. For males, however, greater self-concealment was uniquely predicted by a more permissive maternal style, while a high-

quality relationship with the father was protective. Also, as indicated by research done by Pinquart and Kauser (2018), rigid and unresponsive parenting intensifies internalizing behaviors and stifles emotional expression.

These findings suggest that the impact of parenting is not monolithic; for instance, a controlling maternal style may be particularly detrimental to daughters' willingness to confide, while a permissive, low-monitoring maternal style may inadvertently foster secrecy in sons. Although our study did not disaggregate gender, these patterns highlight a crucial area for future investigation.

The non-significant interaction terms in our models suggest that parenting styles have an additive, rather than a moderating, effect on the relationship between ACEs and self-concealment. From a statistical perspective, the null finding may reflect the inherent difficulty of detecting interaction effects in non-experimental research. A meta-analysis by Aguinis et al. (2005) found that the median variance explained by interaction terms in psychological research is a mere 0.2% ($f^2 = 0.002$), an effect size so small that most studies are severely underpowered to detect it. This issue is compounded in the present study by the large main effects of both ACEs and parenting styles on self-concealment. When predictors have strong independent effects, there is little remaining variance for their interaction to account for, a common statistical issue in psychosocial research, making a non-significant interaction term statistically probable even if a small true effect exists (Aguinis et al., 2005; Aguinis & Gottfredson, 2010).

Second, and perhaps more theoretically compelling, this finding may reflect the developmental trajectory of self-concealment. Drawing on the principle of cumulative continuity, personality-related traits become increasingly stable across adolescence and into early adulthood, reaching a plateau around age 25 (Bleidorn, 2022; Caspi et al., 2005). It is plausible that self-concealment, once established as a coping strategy in response to early ACEs, may crystallize into an enduring, trait-like disposition. By the time individuals reach young adulthood (ages 18-25), this pattern may be less malleable in response to concurrent influences of perceived parenting. While supportive parenting during the neurobiologically plastic window of adolescence may indeed buffer the effects of trauma (Colich et al., 2021), its moderating influence may wane as individuals gain autonomy and their relational styles stabilize. This aligns with findings from Chainey (2022), who also found that effective parenting had a powerful main effect on adolescent outcomes but did not moderate the impact of childhood adversity.

These insights have significant implications for promoting resilience among young adults exposed to adversity. First, interventions must directly target the psychological sequelae of ACEs. Evidence-based approaches like Acceptance and Commitment Therapy (ACT) can enhance psychological flexibility, helping individuals to accept distressing internal experiences without resorting to avoidant behaviors like self-concealment. Similarly, mindfulness-based interventions and self-compassion training have been shown to mediate the relationship between ACEs and PTSD symptoms, building the internal resources needed to manage trauma's impact (Arslan et al., 2025).

Second, promoting authoritative parenting practices is a critical public health goal for preventing intergenerational transmission of adversity. Parent-focused programs that teach skills in emotional availability, consistent discipline, and warm, open communication can create a protective environment that fosters resilience in children. For young adults, therapeutic work can focus on processing their experiences with non-authoritative parenting and developing healthier relational patterns. Systemically, reducing the stigma around mental health on

college campuses and communities can create safer environments for disclosure, diminishing the perceived need for concealment.

Limitations and Directions for Future Research

The study's limitations must be acknowledged. First, the study used a cross-sectional design which limits inference in several ways. Because all variables were measured at a single time point, we cannot establish temporal precedence or causality. Terms such as “predict,” “effect,” and “protective” should be read as statistical descriptions of association rather than causal claims (Wang & Cheng, 2020). Individuals with a strong tendency to conceal distress may recall or rate their childhood and their parents differently, and unmeasured variables such as depressive symptoms, family socioeconomic circumstances, or personality may account for part of the observed relationships. Second, reliance on an online survey to collect data, the use of a non-probability sampling method, and the demographic makeup of the participants restrict the generalizability of the results. The sample consisted predominantly of females (almost 69%) and was skewed towards individuals with higher education levels, which may not reflect the wider population of Indian young adults. Third, as all measures were collected via self-report from the same source, shared method variance may have inflated some of the observed associations. Fourth, the widely used 10-item ACEs questionnaire, although validated, has clear limitations. Its simple yes/no format does not record how often or how intense adverse events were, which can flatten the complex nature of childhood adversity and prevent distinguishing single incidents from repeated exposures, differences that may affect psychological outcomes. The measure also covers only ten specified types of abuse and household dysfunction, excluding other important stressors such as peer bullying, social isolation, community violence, and socioeconomic hardships.

Future research would benefit from using more detailed tools that capture both a broader range of adversities and their frequency/severity. Future research should also employ longitudinal designs to track the developmental pathways from ACEs to parenting and subsequent self-concealment in offsprings. Studies should be adequately powered to detect small interaction effects, model parenting styles jointly, and adjust for relevant covariates. It would also be beneficial to incorporate multiple reporters (e.g., parents, partners) or observational data to provide a more objective assessment of parenting behaviors (Weistra et al., 2024). Since our study primarily included urban, educated, English-speaking young adults, future research should include people from rural areas, individuals with different education levels, and those who speak other languages to make the findings more widely applicable. Future studies should also measure candidate mediators, such as shame, emotion regulation, and psychological inflexibility, and test them alongside parenting in longitudinal or moderated-mediation models. Finally, studies should move beyond cataloging adversity to include protective factors, such as Protective and Compensatory Experiences (PACEs) or self-compassion, which may buffer the negative effects of ACEs (Morris et al., 2021; Garbutt et al., 2024).

Conclusion

This study provides compelling evidence for the enduring impact of adverse childhood experiences on young adults' tendency to conceal personal distress, a process that is deeply intertwined with the parenting environment. This

study found that adverse childhood experiences and perceived non-authoritative parenting independently predict higher self-concealment in young adults, with additive rather than interactive effects. Authoritative parenting appears to be a protective factor, while both authoritarian and permissive styles are associated with greater risk. These findings highlight the necessity of addressing early trauma and promoting supportive parenting to mitigate the long-term consequences of ACEs and foster healthier emotional development and interpersonal functioning in children and adults.

References

Aggarwal, S., & Dutt, S. (2024). The effect of adverse childhood experiences on fear of intimacy in young adults. *International Journal of Research and Analytical Reviews, 11*(2), 846-855. https://doi.org/10.13140/RG.2.2.27834.81607

Aguinis, H., Beaty, J. C., Boik, R. J., & Pierce, C. A. (2005). Effect size and power in assessing moderating effects of categorical variables using multiple regression: A 30-year review. *Journal of Applied Psychology, 90*(1), 94–107. https://doi.org/10.1037/0021-9010.90.1.94

Aguinis, H. and Gottfredson, R.K. (2010), Best-practice recommendations for estimating interaction effects using moderated multiple regression. *Journal of Organizational Behavior 31*(6), 776-786. https://doi.org/10.1002/job.686

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*(5), 469–480. https://doi.org/10.1037/0003-066X.55.5.469

Arslan, G., Özdemir Bişkin, S., & Kocaayan, F. (2025). Adverse childhood experiences, self-compassion, psychological flexibility, and posttraumatic stress disorder. *Children and Youth Services Review, 169,* 108109. https://doi.org/10.1016/j.childyouth.2024.108109

Baudat, S., Mantzouranis, G., Van Petegem, S., & Zimmermann, G. (2022). How do adolescents manage information in the relationship with their parents? A latent class analysis of disclosure, keeping secrets, and lying. *Journal of Youth and Adolescence, 51*(6), 1134–1152. https://doi.org/10.1007/s10964-022-01599-0

Baumrind, D. (1971). Current patterns of parental authority. *Developmental Psychology, 4*(1, Pt.2), 1–103. https://doi.org/10.1037/h0030372

Bleidorn, W., Schwaba, T., Zheng, A., Hopwood, C. J., Sosa, S. S., Roberts, B. W., & Briley, D. A. (2022). Personality stability and change: A meta-analysis of longitudinal studies. *Psychological Bulletin, 148*(7–8), 588–619. https://doi.org/10.1037/bul0000365

Caspi, A., Roberts, B. W., & Shiner, R. L. (2005). Personality development: Stability and change. *Annual Review of Psychology, 56,* 453–484. https://doi.org/10.1146/annurev.psych.55.090902.141913

Chainey, C., Burke, K., & Haynes, M. (2022). Does parenting moderate the association between adverse childhood experiences and adolescents' future orientation? *Journal of Child and Family Studies.* Advance online publication. https://doi.org/10.1007/s10826-022-02275-4

Choudhary, S. (2019). Emotional intelligence and resiliency among adolescents. *Review of Research, 8*(8), 1-10.

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98*(2), 310–357. https://doi.org/10.1037/0033-2909.98.2.310

Colich, N. L., Rosen, M. L., Williams, E. S., & McLaughlin, K. A. (2021). Heightened sensitivity to the caregiving environment during adolescence: Implications for recovery following early-life adversity. *Journal of Child Psychology and Psychiatry, 62*(9), 1062–1072. https://doi.org/10.1111/jcpp.13347

Cramer, K. M., & Barry, J. E. (1999). Psychometric properties and confirmatory factor analysis of the Self-Concealment Scale. *Personality and Individual Differences, 27*(4), 629–637. https://doi.org/10.1016/S0191-8869(98)00222-0

Criddle, J., Sease, T. B., & Malm, E. K. (2022). Exploring the interpersonal consequences of adverse childhood experiences in college students. *Journal of Contextual Behavioral Science, 26*, 29–35. https://doi.org/10.1016/j.jcbs.2022.08.004

Curtis, A., Luchetti, M., Prendergast, C., Ahern, E., Creaven, A.-M., Kirwan, E. M., Graham, E. K., & O'Súilleabháin, P. S. (2025). Adverse childhood experiences and loneliness: A systematic review and meta-analysis. *Social Science & Medicine, 370,* 117860. https://doi.org/10.1016/j.socscimed.2025.117860

Darling, N., Cumsille, P., & Caldwell, L. (2006). Predictors of Adolescents' Disclosure to Parents and Perceived Parental Knowledge: Between- and Within-Person Differences. *Journal of Youth and Adolescence. 35.* 659-670. https://doi.org/10.1007/s10964-006-9058-1

Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin, 113*(3), 487–496. https://doi.org/10.1037/0033-2909.113.3.487

Divya, T. V., & Manikandan, K. (2013). Perceived parenting styles scale (PPSS). Department of Psychology, University of Calicut, Kerala, India.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*(4), 245–258. https://doi.org/10.1016/S0749-3797(98)00017-8

Garbutt, K., Rennoldson, M., & Gregson, M. (2024). Sexual offending: Adverse childhood experiences, shame, and self-compassion explain the variance in self-harm and harm towards others? *Sexual Abuse: A Journal of Research and Treatment, 36*(6), 662–691. https://doi.org/10.1177/10790632231201398

George, D., & Mallery, P. (2010). *SPSS for Windows step by step: A simple guide and reference, 17.0 update*. Allyn & Bacon.

Gruhn, M. A., & Compas, B. E. (2020). Effects of maltreatment on coping and emotion regulation in childhood and adolescence: A meta-analytic review. *Child Abuse & Neglect, 103,* 104446. https://doi.org/10.1016/j.chiabu.2020.104446

Hazra, S., & Kewalramani, S. (2022). Relationship of adverse childhood experiences with present family relationships in young adults. *International Journal of Research and Analytical Reviews 9*(1), 32-41.

Larson, D. G., & Chastain, R. L. (1990). Self-concealment: Conceptualization, measurement, and health implications. *Journal of Social and Clinical Psychology, 9*(4), 439–455. https://doi.org/10.1521/jscp.1990.9.4.439

Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development, 71*(3), 543–562. https://doi.org/10.1111/1467-8624.0016

Maccoby, E. E., & Martin, J. A. (1983). Socialization in the Context of the Family: Parent-Child Interaction. In P. H. Mussen, & E. M. Hetherington (Eds.), *Handbook of Child Psychology: Socialization, Personality, and Social Development* (4th Ed., pp. 1-101). New York: Wiley.

Maloney, E., Dowling, C., Deehan, T., Willis, N., & O'Reilly, G. (2025). Adverse childhood experiences and interpersonal functioning in adulthood: A systematic review. *European Journal of Trauma & Dissociation, 9*(2), 100534. https://doi.org/10.1016/j.ejtd.2025.100534

McLaughlin, K. A. (2016). Future directions in childhood adversity and youth psychopathology. *Journal of Clinical Child & Adolescent Psychology, 45*(3), 361–382. https://doi.org/10.1080/15374416.2015.1110823

Mitchell, L. L., Lodi-Smith, J., Baranski, E. N., & Whitbourne, S. K. (2021). Implications of identity resolution in emerging adulthood for intimacy, generativity, and integrity across the adult lifespan. *Psychology and aging, 36*(5), 545–556. https://doi.org/10.1037/pag0000537

Morris, A. S., Hays-Grudo, J., Zapata, M. I., Treat, A., & Kerr, K. L. (2021). Adverse and protective childhood experiences and parenting attitudes: The role of cumulative protection in understanding resilience. *Adversity and Resilience Science, 2*(3), 181–192. https://doi.org/10.1007/s42844-021-00036-8

Narayan, A. J., Kalstabakken, A. W., Labella, M. H., Nerenberg, L. S., Monn, A. R., & Masten, A. S. (2017). Intergenerational continuity of adverse childhood experiences in homeless families: Unpacking exposure to maltreatment versus family dysfunction. *The American journal of orthopsychiatry, 87*(1), 3–14. https://doi.org/10.1037/ort0000133

Pinquart, M., & Kauser, R. (2018). Do the associations of parenting styles with behavior problems and academic achievement vary by culture? A meta-analysis. *Cultural Diversity and Ethnic Minority Psychology, 24*(1), 75–100. https://doi.org/10.1037/cdp0000149

Rollins, E. M., & Crandall, A. (2021). Self-regulation and shame as mediators between childhood experiences and young adult health. *Frontiers in Psychiatry, 12,* 649911. https://doi.org/10.3389/fpsyt.2021.649911

Roth, G., Assor, A., Niemiec, C. P., Ryan, R. M., & Deci, E. L. (2009). The Emotional and Aca- demic Consequences of Parental Conditional Regard: Comparing Conditional Positive Regard, Conditional Negative Regard, and Autonomy Support as Parenting Practices. *Developmental Psychology, 45*, 1119-1142. http://dx.doi.org/10.1037/a0015272

Rowell, T., & Neal-Barnett, A. (2021). A Systematic Review of the Effect of Parental Adverse Childhood Experiences on Parenting and Child Psychopathology. *Journal of child & adolescent trauma, 15*(1), 167–180. https://doi.org/10.1007/s40653-021-00400-x

Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry, 57*(3), 316–331. https://doi.org/10.1111/j.1939-0025.1987.tb03541.x

Salinas-Oñate, N., Segú Flores, M. J., Salazar-Fernández, C., Baeza-Rivera, M. J., & Olivera, M. (2024). Self-concealment, depressive symptoms, and seeking professional help: Evidence of an invariance model. *Behavioral Psychology*, 32(3), 541–561.

Schofield, T. J., Lee, R. D., & Merrick, M. T. (2013). Safe, stable, nurturing relationships as a moderator of intergenerational continuity of child maltreatment: A meta-analysis. *Journal of Adolescent Health, 53*(4, Suppl.), S32–S38. https://doi.org/10.1016/j.jadohealth.2013.05.004

Sease, T. B., Sudduth, H., Sandoz, E. K., & Perkins, D. R. (2021). Automatic thoughts: Understanding precursors of self-concealment within the psychological flexibility framework. *Journal of Contextual Behavioral Science, 22*, 68–73. https://doi.org/10.1016/j.jcbs.2021.09.008

Sease, T. B., John, D. A., Perkins, D. R., & Sandoz, E. K. (2023). Psychological inflexibility as a moderator of the relationship between adverse childhood experiences and negative automatic thoughts. *Journal of Family Trauma, Child Custody & Child Development, 20*(4). https://doi.org/10.1080/26904586.2023.2189203

Samardzic, T., Barata, P. C., Morton, M., & Yen, J. (2025). Young Women's Silencing-Type Behaviors in Heterosexual Relationships. *Journal of interpersonal violence, 40*(13-14), 3014–3043. https://doi.org/10.1177/08862605241265417

Smetana, J., Robinson, J., Bourne, S. V., & Wainryb, C. (2019). "I didn't want to, but then I told": Adolescents' narratives regarding disclosure, concealment, and lying. *Developmental Psychology, 55*(2), 403–414. https://doi.org/10.1037/dev0000646

Soenens, B., Vansteenkiste, M., Luyckx, K., & Goossens, L. (2006). Parenting and adolescent problem behavior: an integrated model with adolescent self-disclosure and perceived parental knowledge as intervening variables. *Developmental psychology, 42*(2), 305–318. https://doi.org/10.1037/0012-1649.42.2.305

Tripathi, S., & Jadon, P.S. (2017). Effect of Authoritarian Parenting style on self esteem of the Child: A Systematic Review. *International Journal of Advance Research and Innovative Ideas in Education, 3.* 909-913.

Wattanatchariya, K., Narkpongphun, A., & Kawilapat, S. (2024). The relationship between parental adverse childhood experiences and parenting behaviors. *Acta Psychologica, 243,* 104166. https://doi.org/10.1016/j.actpsy.2024.104166

Wang, X., & Cheng, Z. (2020). Cross-Sectional Studies: Strengths, Weaknesses, and Recommendations. *Chest, 158*(1S), S65–S71. https://doi.org/10.1016/j.chest.2020.03.012

Weinstein, N., Huo, A., & Itzchakov, G. (2021). Parental listening when adolescents self-disclose: A preregistered experimental study. *Journal of Experimental Child Psychology, 209*, 105178. https://doi.org/10.1016/j.jecp.2021.105178

Weistra, S. R., van Bakel, H. J. A., & Mathijssen, J. J. P. (2024). Adverse childhood experiences in parental history and how they relate to subsequent observed parent–child interaction: A systematic review. *Child & Youth Care Forum, 54,* 755–785. https://doi.org/10.1007/s10566-024-09832-6

Witt, A., Silva, J. M., Sachser, C., Brähler, E., Kaess, M., & Fegert, J. M. (2026). The role of parenting in mitigating the impact of adverse childhood experiences on mental health: Results from a population-based sample. *SSM – Mental Health, 9*, 100606. https://doi.org/10.1016/j.ssmmh.2026.100606

Zhu, J., Exner-Cortens, D., Dobson, K., Wells, L., Noel, M., & Madigan, S. (2024). Adverse childhood experiences and intimate partner violence: A meta-analysis. *Development and Psychopathology, 36*(2), 929–943. https://doi.org/10.1017/S0954579423000196

Zhu, X., Duan, C., Hou, W., Zhao, Y., Zhang, Y., & He, Y. (2023). Adverse Childhood Experiences, Resilience, and Emotional Problems among Young Children: A Wuhu Family Study. *International Journal of Environmental Research and Public Health, 20*(4), 3028. https://doi.org/10.3390/ijerph20043028