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LESS ANGER, EQUAL SHAME: AGE-RELATED VARIATION IN AGGRESSION, MORAL EMOTIONS, AND EMOTION REGULATION ACROSS EMERGING ADULTHOOD

Ayesha Tariq[1*], Iffat Rohail[2]

[*1] *PhD Scholar, Department of Psychology, Foundation University Islamabad, Pakistan*
[2]*Professor, Department of Psychology, Department of Psychology, Foundation University Islamabad, Pakistan*

[*1]ayeshatariqat36@gmail.com

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Ayesha Tariq

Abstract

Aggression declines across the transition from adolescence to adulthood, yet the capacities thought to restrain it are usually examined between broad developmental stages rather than within them. Emerging adulthood is typically treated as a single category, and age, where measured, is entered as a statistical control rather than examined in its own right. This report described how age relates to aggression, moral emotions, empathy, and emotion regulation across the eighteen-to-twenty-five band in 300 emerging adults in Pakistan reporting three or more adverse childhood experiences. Participants completed the Guilt and Shame Proneness Scale, the Toronto Empathy Questionnaire, the Emotion Regulation Questionnaire, and the Brief Aggression Questionnaire. Older participants reported less physical aggression, anger, and hostility, and greater empathy, cognitive reappraisal, and guilt. Shame, expressive suppression, and verbal aggression were unrelated to age. Anger showed the strongest association. Two findings sit against the developmental literature: the affective component of empathy increased with age although it is generally held to be stable across this period, and cognitive reappraisal increased although reviews report inconsistent age effects. The pattern also aligns with cross-sectional evidence while diverging from the one longitudinal study of this transition, which is what a cohort difference would produce. Because the design is cross-sectional and the age range narrow, these findings describe age-related variation rather than developmental change and identify questions for longitudinal work rather than answering them.

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INTRODUCTION

Emerging adulthood, the period between 18 and 25 years, is characterised as a time when, for the first time, identity, relationships, and adult roles are developed outside the family (Arnett, 2000). It is also a period of elevated risk. Criminal behaviour reaches its lifetime peak during these years, and most mental health disorders have their onset before the age of 25 (Kessler et al., 2005; Villanueva et al., 2024). As the period progresses, aggression declines. Comparisons between adolescents and emerging adults consistently show lower levels of aggression among older individuals (Vagos et al., 2025). Similarly, large community studies show that physical fighting declines from 42.8% during 13 to 15 years of age to 10.4% among those aged 17 to 20 (Salo, 2016). Longitudinal research also shows declines in both reactive and proactive aggression with age (Broekhof et al., 2021). Although the decline itself is well established, what drives this change remains unclear.

One explanation is that aggression declines as the capacities that regulate it become stronger. Moral emotions, empathy, and emotion regulation are all potential mechanisms linked to aggression. Guilt, a behaviour-focused and reparative emotion, is associated with lower aggression. In contrast, shame, which involves negative evaluations of the self as a whole, is associated with higher aggression, partly through the externalisation of blame (Stuewig et al., 2010; Tangney & Dearing, 2002). A similar pattern can be observed developmentally. Across adolescence, shame is associated with increasing reactive aggression, whereas guilt contributes to a decrease in proactive aggression (Broekhof et al., 2021). Emotion regulation strategies also differ in their effects, with expressive suppression resulting in negative affect, and cognitive reappraisal associated with positive affect (Gross & John, 2003). If these capacities strengthen between ages 18 and 25, aggression should decline alongside them. The specific types of aggression that decline may therefore indicate which capacities are contributing to this change.

However, this explanation assumes more than the current literature supports. The developmental evidence for each of these processes remains mixed. While cognitive empathy reaches functional maturity between ages 19 and 25 (Dorris et al., 2022), affective empathy seems relatively stable across the same period (Topsfield & Grainger, 2026). Whether empathy increases during emerging adulthood therefore depends partly on which component is measured. Evidence for guilt also remains inconsistent. Population data show that guilt is higher in older age groups (Luck, 2026), but longitudinal research across the transition to university found that the largest trajectory group showed guilt to decrease rather than increase (Wang et al., 2025). Similarly, reviews of cognitive reappraisal report mixed evidence on whether its use increases with age (Shum et al., 2025; Willner et al., 2022). The idea that stronger emotional and regulatory capacities help explain declining aggression is therefore plausible, but not yet established, and its underlying assumptions remain open to empirical testing.

Childhood adversity further complicates this evidence. Adversity can disrupt emotion regulation (Miu et al., 2022) and shift empathic responding toward personal distress rather than compassionate concern (Cerqueira & Almeida, 2023). Maltreatment has also been linked to shame and guilt proneness into adulthood (Mojallal et al., 2021), while sexual abuse has been associated with increasing shame across the university transition (Wang et al., 2025). Therefore, it is unclear whether the typical age-related strengthening of these capacities occurs in the same way among young adults with substantial childhood adversity. This question is particularly relevant in Pakistan, where most emerging adults report multiple adverse childhood experiences, with household and community violence being especially common (Mahmood & Fatmi, 2025).

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Two further gaps motivate the present report. Most of this literature compares emerging adults with adolescents or older adults, treating emerging adulthood as a single category (e.g., Dorris et al., 2022; Topsfield & Grainger, 2026; Vagos et al., 2025). Some studies bypass the period altogether, sampling adolescents and adults aged 25 and above while leaving the intervening years unexamined (Topsfield & Grainger, 2026). Variation within emerging adulthood is therefore rarely described. The second gap is analytic. Age is routinely included as a statistical control in psychological research, yet reviews of covariate use suggest that such variables are often not clearly justified or explained in relation to the constructs being studied (Bernerth & Aguinis, 2016; Wysocki et al., 2022). Studies of youth samples similarly show that only a minority explain how or why covariates were selected (Halladay et al., 2025). Methodologists have also cautioned against interpreting control-variable coefficients causally and have argued that these coefficients need not be reported (Hünermund & Louw, 2025). The issue, therefore, is not that researchers have used age incorrectly, but that covariate tables cannot provide the descriptive evidence needed to understand age-related variation. That evidence requires studies in which age is examined directly. Against this background, the present study examined how age relates to four dimensions of aggression and to guilt, shame, empathy, and emotion regulation in emerging adults in Pakistan reporting three or more adverse childhood experiences.

Method

Participants

The study included 300 emerging adults aged 18 to 25 years (M = 21.31, SD = 2.16). Of these, 200 (66.7%) were women, 98 (32.7%) were men, and 2 (0.7%) did not report their gender. All participants reported three or more adverse childhood experiences (ACEs) on the 10-item ACE questionnaire (Felitti et al., 1998). This threshold was used to identify participants with substantial exposure to childhood adversity. Most participants lived in Islamabad Capital Territory or Punjab, in nuclear households, and were single.

Procedure

Data were collected through an online, self-administered survey. After providing informed consent, participants completed an eligibility screening, demographics, and the study measures. Participants who reported a current severe psychiatric or neurological condition or current intoxication were excluded. A content warning was provided before the adversity items, and mental health support resources were provided at the end of the survey. Ethical approval was obtained from the institutional review board of the participating university.

The data reported here were collected as part of a larger study of moral emotions and aggression in adversity-exposed emerging adults. Analyses of the same sample examining guilt and shame as predictors of aggression, with empathy and emotion regulation as moderators, are reported in a separate manuscript currently under review (Author, under review). The present report addresses a different question, namely age-related variation across the study variables, and shares no analyses with that manuscript.

Measures

Adverse Childhood Experiences

The 10-item Adverse Childhood Experiences (ACE) questionnaire (Felitti et al., 1998) assessed exposure to childhood abuse, neglect, and household dysfunction before the age of 18. Each dichotomous item corresponds to one adversity category, scored positive if the experience occurred at any point in childhood, and the total is the sum of experiences rated positive. Higher scores indicate higher adversity. The measure was used as the sampling criterion rather than as a study variable. Participants reporting fewer than three adversities were excluded.

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Guilt and Shame Proneness

The 16-item Guilt and Shame Proneness Scale (GASP; Cohen et al., 2011) assesses the dispositional tendency to experience guilt and shame across brief transgression scenarios. Each item is scored on a five-point Likert scale, ranging from *very unlikely* to *very likely*. Eight items form the guilt composite and eight the shame composite, each scored as the mean of its items. Higher scores indicate a stronger disposition toward the relevant emotion. Internal consistency was good for both guilt (α = .83) and shame (α = .81).

Empathy

The 16-item Toronto Empathy Questionnaire (TEQ; Spreng et al., 2009) conceptualises empathy as a primarily affective capacity to recognise and respond to the emotional states of others, and not as the cognitive capacity to reason about another's perspective. Items are rated from *never* to *always*, with eight negatively worded items reverse-scored, and empathy was scored as the sum of all items, with higher scores indicating greater empathic responding (α = .82).

Emotion Regulation

The 10-item Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) assesses two strategies: cognitive reappraisal, the reinterpretation of a situation before the emotional response is fully formed (six items), and expressive suppression, the inhibition of an emotion's outward expression once it is underway (four items). No items are reverse-scored, and each strategy was scored as the mean of its items, with higher scores indicating greater habitual use. The questionnaire was administered on a 5-point rather than the original 7-point scale, a deliberate decision to hold the number of response options constant across successive measures and so reduce the response burden of shifting scale formats. Five-point and seven-point Likert scales yield comparable measurement properties (Dawes, 2008). Internal consistency was good for reappraisal (α = .82) and acceptable for the four-item suppression subscale (α = .73).

Aggression

The 12-item Brief Aggression Questionnaire (Webster et al., 2014) operationalises Buss and Perry's (1992) four-factor model through subscales of physical aggression, verbal aggression, anger, and hostility. Each comprises three items rated from *extremely uncharacteristic* to *extremely characteristic* of the respondent, with one item reverse-scored. Each subscale was scored as the sum of its items and total aggression as the sum of all items, with higher scores indicating greater trait aggression. Internal consistency was acceptable for physical aggression (α = .72), verbal aggression (α = .75), and the total score (α = .82), and lower for anger and hostility (α = .66 each). For three-item scales the mean inter-item correlation is the more appropriate index, and both values (.38 and .39) fell within the range recommended for short scales (Clark & Watson, 1995). The two subscales were therefore retained.

Analytic Strategy

Analyses were conducted using IBM SPSS Statistics (Version 27). Missing data were minimal and were handled using person-mean proration. For each scale, the mean of the available items was used when at least half of the items had been completed; otherwise, the scale score was treated as missing. This approach is considered appropriate when missing data are limited, and items within a scale are correlated (Parent, 2013). Continuous variables met conventional criteria for univariate normality (West et al., 1995).

Age was treated as a continuous variable throughout and examined using zero-order correlations with each study variable. Because these analyses were descriptive and were not specified a priori, no correction for multiple comparisons was applied. Instead, the findings were interpreted based on the overall consistency

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of the pattern rather than the statistical significance of any single coefficient.

As a supplementary analysis, the sample was divided at the median age of 21 into a younger group (18 to 21 years) and an older group (22 to 25 years). The groups were compared using Welch's *t* tests, which do not assume equal variances and are appropriate for groups of unequal size. This grouped analysis was treated as supplementary and illustrative because dividing a continuous variable into categories results in a loss of information and statistical power and may produce findings that differ from those obtained using the continuous variable (MacCallum et al., 2002). Where the two approaches differed, greater weight was given to the continuous analysis.

Results

Age was negatively associated with three of the four aggression dimensions: physical aggression ($r = -.22$), anger ($r = -.32$), and hostility ($r = -.20$). Verbal aggression was not significantly related to age ($r = -.09$). Age was positively associated with empathy ($r = .19$), cognitive reappraisal ($r = .16$), and guilt ($r = .14$), but was not related to shame ($r = -.06$) or expressive suppression ($r = -.07$). The supplementary median-split analysis showed a similar, and somewhat stronger, pattern (Table 1). The younger group scored higher on all four aggression dimensions, with the largest differences observed for anger ($d = 0.67$) and total aggression ($d = 0.62$). The younger group also reported lower empathy ($d = -0.35$) and cognitive reappraisal ($d = -0.33$). There were no significant group differences in guilt, shame, or expressive suppression. One difference between the two approaches is worth noting: verbal aggression differed between the age groups ($p = .047$) but was unrelated to age when treated as a continuous variable. This illustrates the potential for dichotomising age to produce findings that differ from those obtained using the continuous measure, supporting the decision to give greater weight to the continuous analysis.

Table 1 Age-Group Differences on the Study Variables

Variable	18 to 21 *M* (*SD*)	22 to 25 *M* (*SD*)	*t*	*df*	*p*	*d*
Guilt	5.28 (1.14)	5.45 (1.14)	−1.26	276.5	.207	−0.15
Shame	4.56 (1.18)	4.30 (1.41)	1.67	247.0	.097	0.20
Empathy	45.05 (9.15)	48.11 (8.20)	−3.04	288.8	.003	−0.35
Cognitive reappraisal	3.36 (0.93)	3.66 (0.84)	−2.87	287.4	.004	−0.33
Expressive suppression	3.30 (0.97)	3.17 (1.05)	1.15	264.5	.251	0.14
Physical aggression	11.61 (4.66)	9.61 (4.60)	3.69	277.2	< .001	0.43
Anger	12.93 (4.07)	10.23 (3.89)	5.81	281.7	< .001	0.67
Verbal aggression	12.35 (4.53)	11.26 (4.83)	2.00	266.3	.047	0.24
Hostility	14.12 (4.05)	12.09 (4.73)	3.89	251.2	< .001	0.46
Total aggression	51.07 (12.58)	43.23 (12.60)	5.33	275.5	< .001	0.62

Note. Younger (18 to 21) $n = 170$; older (22 to 25) $n = 129$. Welch's *t* test was used throughout. *d* = Cohen's *d*; a positive value indicates a higher mean for the younger group. This grouped comparison is supplementary to the continuous treatment of age.

Discussion

Older participants in this sample reported less physical aggression, anger, and hostility, alongside greater empathy, cognitive reappraisal, and guilt. The direction of these associations is consistent with the wider literature. Large community cohorts show a marked decline in physical fighting across the transition from adolescence to

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adulthood (Salo, 2016), adolescents report more aggression than emerging adults on directly comparable measures (Vagos et al., 2025), and longitudinal studies show declines in both reactive and proactive aggression with age (Broekhof et al., 2021). The contribution of the present findings is narrower. They suggest that this same pattern of age-related variation can also be observed within emerging adulthood, rather than only between broader developmental stages.

Anger showed the strongest association with age and the largest group difference. This is consistent with literature linking age to both aggressive behaviour and irritability in a sample spanning adolescence and young adulthood (Quarmley et al., 2023). This convergence is reassuring, but it establishes less than it might appear to. Both studies are cross-sectional, which shows that the association can be replicated across samples, not that anger changes within individuals as they age. The findings are also consistent with cohort differences, age-related differences in willingness to report anger rather than anger itself, or selection processes that produce differences between younger and older participants for reasons unrelated to development.

The guilt finding illustrates how study design shapes the interpretation of age-related associations. Cross-sectional research using scenario-based measures of guilt proneness in adult samples has reported higher guilt among older age groups, consistent with the present findings (Luck, 2026). In contrast, the longitudinal study of this transition found the opposite pattern, with the largest trajectory group showing a decrease rather than an increase in guilt across the first year of university (Wang et al., 2025). The present findings therefore converge with the cross-sectional evidence but differ from the longitudinal evidence, which is better suited to detecting within-person change. This pattern could reflect cohort differences rather than developmental change, and the present data cannot distinguish between these explanations. The same caution applies to shame. Shame was unrelated to age in the present sample, whereas the longitudinal study found an increasing trajectory across the same transition, particularly among participants reporting sexual abuse (Wang et al., 2025).

The findings for cognitive reappraisal require some caution in interpretation. It may be tempting to suggest that the positive association with age reflects increasing use of reappraisal and helps explain the lower levels of anger among older participants. However, existing evidence does not clearly support an age-related increase in reappraisal. Reviews of early adolescence report that most studies find no association between age and the frequency of reappraisal use (Shum et al., 2025). Research spanning late childhood to early adulthood similarly found no age differences in reappraisal success, although the strategies used varied across age groups (Nook et al., 2020). A systematic review also found considerable inconsistency in how reappraisal changes across development (Willner et al., 2022). The modest positive association observed here is therefore better treated as an age-related association requiring further explanation than as evidence of a developmental trajectory.

The second finding concerns empathy. The measure used here assesses affective empathy, or the tendency to experience some resonance with the emotional states of others. Current evidence suggests that cognitive empathy continues to develop across the late teens and early twenties, whereas affective empathy remains comparatively stable over this period (Dorris et al., 2022; Topsfield & Grainger, 2026). The positive association observed here therefore concerns the component that previous research would not necessarily predict to change with age. Several explanations are possible. Affective empathy may show a different pattern among individuals with substantial childhood adversity, particularly if early adversity has altered the development of emotional responding. Alternatively, the

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association may reflect age-related differences in willingness to endorse empathic descriptions of oneself rather than differences in empathy itself. It may also represent a sample-specific finding, particularly given the modest size of the association and the fact that it was not specified a priori. The present data therefore do not provide sufficient evidence to conclude that affective empathy strengthens across emerging adulthood, and this possibility requires further investigation.

The variables that were unrelated to age also help clarify how the findings should be interpreted. Shame and expressive suppression showed no age-related variation, despite being substantial correlates of aggression in this sample. If these risk-related variables remain relatively stable while some forms of aggression are lower among older participants, the difference cannot be explained by reductions in shame or suppression. It may instead reflect increases in protective capacities or the influence of factors that were not measured in the present study. The latter possibility is important to consider. Changes across emerging adulthood often involve shifts in social roles, living arrangements, relationship status, and opportunities for social interaction, none of which were assessed here. Any of these factors could contribute to age-related differences in aggression without involving changes in moral-emotional or regulatory processes. The findings for verbal aggression also illustrate the sensitivity of the analysis to how age is represented. Verbal aggression was unrelated to age when age was treated continuously but differed between the median-split groups. This discrepancy is consistent with the information loss associated with dichotomising a continuous variable (MacCallum et al., 2002) and supports treating the grouped comparison as supplementary and illustrative rather than as primary evidence.

The fact that this pattern emerged in a sample with substantial childhood adversity is also relevant to its interpretation. Childhood adversity can disrupt emotion regulation (Miu et al., 2022), shift empathic responding toward personal distress (Cerqueira & Almeida, 2023), and shape moral-emotional dispositions into adulthood (Mojallal et al., 2021). These effects could plausibly alter the age-related patterns observed in these capacities. However, without a low-adversity comparison group, it is not possible to determine whether the associations observed here are weaker, similar, or stronger than those in the wider population. The findings therefore provide evidence of age-related variation within an adversity-exposed sample, but cannot establish whether childhood adversity changes the strength or direction of these associations.

Limitations

The cross-sectional design means that the observed associations reflect differences between people rather than change within individuals. The age range is also relatively narrow for the developmental processes under consideration, limiting the extent to which age-related variation can be observed and leaving the estimates more sensitive to sampling variation. All measures were self-reported by the same participants at a single time point, which may have increased shared method variance, and two aggression subscales were brief and had correspondingly lower reliability. The sample was an online convenience sample completed in English, drawn largely from urban centres, with more women than men, and selected for substantial childhood adversity; it therefore cannot be considered representative of Pakistani emerging adults generally. Most importantly, age-related analyses were not the primary purpose of the study and were not specified a priori. The observed pattern was identified after examining the data and should therefore be interpreted as descriptive and hypothesis-generating rather than confirmatory.

Conclusion

Within this relatively narrow age range and adversity-exposed sample, aggression and several capacities potentially related to its regulation

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varied systematically with age, with the clearest associations observed for anger and empathy. The direction of these associations is consistent with findings from studies using broader age ranges and longitudinal designs. However, the present data cannot establish developmental change, mechanisms, or causal ordering, and some findings do not align with the patterns reported in developmental research. Longitudinal studies following the same individuals across this period, ideally with broader and more representative samples and multiple methods of assessment, are needed to determine whether these between-person differences correspond to within-person change, and to test whether changes in reappraisal or empathy precede reductions in anger, as would be expected under a regulatory account. Until such evidence is available, the regulatory explanation remains one possible interpretation among several.

Statements and Declarations

Funding. No funding was received for conducting this study.

Competing Interests. The authors have no competing interests to declare that are relevant to the content of this article.

Ethics Approval. This study was approved by the Institutional Review Board of Foundation University Islamabad (approval number FUSST/IRB/206). All procedures involving human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

Consent to Participate. Informed consent was obtained from all individual participants included in the study.

Consent to Publish. Informed consent obtained from all individual participants included the publication of anonymised, aggregate findings. No individually identifying information is reported.

Data Availability. The data supporting the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available due to the sensitive nature of the information collected, including participants' histories of childhood adversity, and to protect participant confidentiality in accordance with the study's ethical approval.

Author Contributions. AT conceived and designed the study, collected and analysed the data, and drafted the manuscript. IR supervised the research, contributed to the study design and interpretation, and critically revised the manuscript. Both authors read and approved the final version.

Use of Generative Artificial Intelligence. A large language model was used to assist with language editing and formatting. All data, analyses, and interpretations are the authors' own work. The authors take full responsibility for the content of this manuscript.

REFERENCES

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

Bernerth, J. B., & Aguinis, H. (2016). A critical review and best-practice recommendations for control variable usage. *Personnel Psychology, 69*(1), 229–283. https://doi.org/10.1111/peps.12103

Broekhof, E., Bos, M. G. N., & Rieffe, C. (2021). The roles of shame and guilt in the development of aggression in adolescents with and without hearing loss. *Research on Child and Adolescent Psychopathology, 49*(7), 891–904. https://doi.org/10.1007/s10802-021-00769-1

ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 5 • September 2026

Buss, A. H., & Perry, M. (1992). The aggression questionnaire. *Journal of Personality and Social Psychology, 63*(3), 452–459. https://doi.org/10.1037/0022-3514.63.3.452

Cerqueira, A., & Almeida, T. C. (2023). Adverse childhood experiences: Relationship with empathy and alexithymia. *Journal of Child and Adolescent Trauma, 16*(3), 559–568. https://doi.org/10.1007/s40653-023-00528-4

Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment, 7*(3), 309–319. https://doi.org/10.1037/1040-3590.7.3.309

Cohen, T. R., Wolf, S. T., Panter, A. T., & Insko, C. A. (2011). Introducing the GASP scale: A new measure of guilt and shame proneness. *Journal of Personality and Social Psychology, 100*(5), 947–966. https://doi.org/10.1037/a0022641

Dawes, J. (2008). Do data characteristics change according to the number of scale points used? *International Journal of Market Research, 50*(1), 61–77. https://doi.org/10.1177/147078530805000106

Dorris, L., Young, D., Barlow, J., Byrne, K., & Hoyle, R. (2022). Cognitive empathy across the lifespan. *Developmental Medicine & Child Neurology, 64*(12), 1524–1531.

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

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*(2), 348–362. https://doi.org/10.1037/0022-3514.85.2.348

Halladay, J., Kershaw, S., Devine, E. K., Grummitt, L., Visontay, R., Lynch, S. J., ... Slade, T. (2025). Covariates in studies examining longitudinal relationships between substance use and mental health problems among youth: A meta-epidemiologic review. *Drug and Alcohol Dependence, 271*, 112665.

Hünermund, P., & Louw, B. (2025). On the nuisance of control variables in causal regression analysis. *Organizational Research Methods, 28*(1), 138–151.

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry, 62*(6), 593–602. https://doi.org/10.1001/archpsyc.62.6.593

ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 5 • September 2026

Luck, T. (2026). Guilt proneness and associated factors in the German adult population: Findings from a large cross-sectional web-based survey. *Health Psychology Report*. Advance online publication. https://doi.org/10.5114/hpr/225095

MacCallum, R. C., Zhang, S., Preacher, K. J., & Rucker, D. D. (2002). On the practice of dichotomization of quantitative variables. *Psychological Methods, 7*(1), 19–40. https://doi.org/10.1037/1082-989X.7.1.19

Mahmood, S., & Fatmi, Z. (2025). Prevalence of adverse childhood experiences (ACEs) and its association with current mental wellbeing among young adults in Pakistan. *Child Abuse & Neglect, 163*, 107318. https://doi.org/10.1016/j.chiabu.2025.107318

Miu, A. C., Szentágotai-Tătar, A., Balazsi, R., Nechita, D., Bunea, I., & Pollak, S. D. (2022). Emotion regulation as mediator between childhood adversity and psychopathology: A meta-analysis. *Clinical Psychology Review, 93*, 102141. https://doi.org/10.1016/j.cpr.2022.102141

Mojallal, M., Simons, R. M., & Simons, J. S. (2021). Childhood maltreatment and adulthood proneness to shame and guilt: The mediating role of maladaptive schemas. *Motivation and Emotion, 45*(2), 197–210. https://doi.org/10.1007/s11031-021-09866-6

Nook, E. C., Vidal Bustamante, C. M., Cho, H. Y., & Somerville, L. H. (2020). Use of linguistic distancing and cognitive reappraisal strategies during emotion regulation in children, adolescents, and young adults. *Emotion, 20*(4), 525.

Parent, M. C. (2013). Handling item-level missing data: Simpler is just as good. *The Counseling Psychologist, 41*(4), 568–600. https://doi.org/10.1177/0011000012445176

Quarmley, M., Vafiadis, A., & Jarcho, J. M. (2023). Irritability and rejection-elicited aggression in adolescents and young adults. *Journal of Child Psychology and Psychiatry, 64*(9), 1346–1358.

Salo, M. C. (2016). *Childhood adversity trajectories and violent behaviors in adolescence* [Doctoral dissertation, State University of New York at Albany].

Shum, C., Dockray, S., & McMahon, J. (2025). The relationship between cognitive reappraisal and psychological well-being during early adolescence: A scoping review. *The Journal of Early Adolescence, 45*(1), 104–133.

Spreng, R. N., McKinnon, M. C., Mar, R. A., & Levine, B. (2009). The Toronto Empathy Questionnaire: Scale development and initial validation of a factor-analytic solution to multiple empathy measures. *Journal of Personality Assessment, 91*(1), 62–71. https://doi.org/10.1080/00223890802484381

Stuewig, J., Tangney, J. P., Heigel, C., Harty, L., & McCloskey, L. (2010). Shaming, blaming, and maiming: Functional links among the moral emotions, externalization of blame, and aggression. *Journal of Research in Personality, 44*(1), 91–102. https://doi.org/10.1016/j.jrp.2009.12.005

Tangney, J. P., & Dearing, R. L. (2002). *Shame and guilt*. Guilford Press.

Topsfield, A. J., & Grainger, S. A. (2026). Emotional valence influences empathic capacity in adolescence and young adulthood. *Journal of Adolescence*. Advance online publication.

ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 5 • September 2026

Vagos, P., Rodrigues, P. F. S., Pandeirada, J. N. S., & Marsee, M. A. (2025). Aggressive behavior in adolescents and emerging adults: The psychometrics of the Portuguese Brief Peer Conflict Scale (Brief-PCS). *Behavioral Sciences, 15*(10), 1378. https://doi.org/10.3390/bs15101378

Villanueva, L., Adrián, J. E., & Gomis-Pomares, A. (2024). The effect of childhood adversity on mental health in young adults: A longitudinal study. *Current Psychology, 43*(8), 6418–6429. https://doi.org/10.1007/s12144-023-04786-w

Wang, C., Zhang, M., Chen, L., Tang, Z., Yan, C., Long, M., & Yang, X. (2025). Developmental trajectory of guilt and shame during the transition to university. *Frontiers in Psychiatry, 16*, 1632419. https://doi.org/10.3389/fpsyt.2025.1632419

Webster, G. D., DeWall, C. N., Pond, R. S., Deckman, T., Jonason, P. K., Le, B. M., Nichols, A. L., Schember, T. O., Cain, N. M., Staton, E. L., & Kirkpatrick, L. A. (2014). The Brief Aggression Questionnaire: Psychometric and behavioral evidence for an efficient measure of trait aggression. *Aggressive Behavior, 40*(2), 120–139. https://doi.org/10.1002/ab.21507

West, S. G., Finch, J. F., & Curran, P. J. (1995). Structural equation models with nonnormal variables: Problems and remedies. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 56–75). Sage.

Willner, C. J., Hoffmann, J. D., Bailey, C. S., Harrison, A. P., Garcia, B., Ng, Z. J., … Brackett, M. A. (2022). The development of cognitive reappraisal from early childhood through adolescence: A systematic review and methodological recommendations. *Frontiers in Psychology, 13*, 875964. https://doi.org/10.3389/fpsyg.2022.875964

Wysocki, A. C., Lawson, K. M., & Rhemtulla, M. (2022). Statistical control requires causal justification. *Advances in Methods and Practices in Psychological Science, 5*(2), Article 25152459221095823. https://doi.org/10.1177/25152459221095823