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When Early Wounds Meet Romantic Loss: Narcissistic Vulnerability, Self-Concept Instability, and Depressive Symptoms in Chinese Emerging Adults

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Research Article

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Abstract

Childhood adversity is a robust predictor of later mental health difficulties, but the self-regulatory and relational conditions under which it becomes destabilizing during emerging adulthood remain unclear. This three-wave longitudinal study tested whether vulnerable narcissism and self-concept clarity explain the association between childhood adversity and later depressive symptoms, and whether romantic loss or relationship insecurity strengthens this pathway. Chinese emerging adults were recruited through universities, vocational colleges, workplaces, and online panels; 1,508 provided valid T1 data, 1,276 completed T2, and 1,041 completed T3. Childhood adversity was associated with higher vulnerable narcissism (B = 0.29, p < .001), which predicted lower T2 self-concept clarity (B = -0.34, p < .001). Lower self-concept clarity predicted higher T3 depressive symptoms (B = -0.23, p < .001), and this path was stronger under higher relationship insecurity (B = -0.12, p = .002). Conditional indirect effects emerged under high, but not low, relationship insecurity. Findings support a conditional longitudinal vulnerability model, while remaining observational rather than definitively causal.

1. Introduction

Childhood adversity is among the most consistently documented developmental predictors of adult mental health risk. Exposure to abuse, neglect, household dysfunction, chronic humiliation, or emotionally unavailable caregiving is associated with later depression, anxiety, post-traumatic stress, interpersonal instability, impaired emotion regulation, and broader health risks (Daníelsdóttir et al., 2024; Felitti et al., 1998; Hughes et al., 2017; Kessler et al., 2010). The central theoretical question is no longer whether adversity matters. The more publishable and clinically useful question is when, for whom, and through which interpersonal mechanisms early adversity becomes psychologically consequential during later developmental transitions. This distinction matters because many individuals exposed to adversity do not show severe symptoms at every point in life. Their vulnerability may remain latent, compensated, or socially buffered until a later developmental stressor challenges the psychological capacities that were shaped under adverse caregiving conditions.

The neurodevelopmental article that motivated this manuscript illustrates this logic. Acosta, Jansen, and Kircher (2025) reported that childhood maltreatment was not simply related to hippocampal volume as a uniform main effect. Rather, romantic relationship breakup moderated the association: maltreatment was linked to smaller bilateral hippocampal volumes primarily among young adults who had experienced a breakup. This finding is consistent with broader work suggesting that childhood adversity may have delayed or context-dependent implications for stress-sensitive developmental systems (McLaughlin et al., 2019; Teicher & Samson, 2016). The value of that article for personality and clinical psychology research is not that every study should use neuroimaging, but that it demonstrates a theoretically productive move. Early adversity may interact with later developmentally salient relationship stress. The present study translates that logic into a longitudinal psychological model focused on self-organization, narcissistic vulnerability, romantic loss, and depressive symptoms.

The focus on narcissistic vulnerability is timely. Narcissism is often discussed publicly as arrogance, entitlement, or self-importance. Contemporary personality research distinguishes grandiose narcissism from vulnerable narcissism and increasingly treats narcissism as a spectrum with both antagonistic self-enhancement and fragile self-regulatory features (Krizan & Herlache, 2018; Miller et al., 2017; Pincus et al., 2009; Wright & Edershile, 2018; Edershile & Wright, 2021). Vulnerable narcissism involves hypersensitivity to rejection, shame, contingent self-worth, defensiveness, interpersonal distrust, and an unstable sense of being valued. These features make it theoretically relevant to childhood adversity and romantic loss. A young adult who grew up with inconsistent, neglectful, or humiliating caregiving may not only develop depressive symptoms directly. They may develop a self-system that is highly dependent on external validation yet easily threatened by criticism or abandonment. Romantic breakup, partner withdrawal, or persistent relationship insecurity can therefore become more than a stressful life event. It can become an event that destabilizes self-definition.

The second key construct is self-concept clarity. Self-concept clarity refers to the extent to which self-beliefs are clearly and confidently defined, internally consistent, and stable (Campbell et al., 1996). A fragile self is central to both vulnerable narcissism and the psychological consequences of romantic dissolution. Breakups can disrupt daily routines, shared identities, future expectations, social roles, and perceived desirability; prior breakup research shows that relationship dissolution can reduce self-concept clarity and increase emotional distress (Slotter et al., 2010). For individuals whose sense of worth is already organized around external recognition, breakup may produce not only sadness but also identity confusion, shame, anger, and depressive withdrawal. This makes self-concept instability a plausible proximal mechanism linking vulnerable narcissism to depressive symptoms and breakup distress.

This study was designed to meet contemporary standards for theory-driven longitudinal research in personality, clinical, developmental, and relationship science. It is theory-led rather than variable-stacked; each construct occupies a necessary place in the developmental sequence. It uses temporal separation and baseline controls to reduce, although not eliminate, reverse-causality concerns. It avoids overclaiming causality from observational mediation by describing the analysis as a temporally ordered conditional indirect association. It also incorporates measurement validation, attrition modeling, missing-data procedures, robustness checks, and transparent data-availability procedures. The goal is not to produce a complicated model, but to produce a model in which every arrow is theoretically defensible.

2. Theoretical Background and Hypotheses

2.1 Childhood Adversity and Later Vulnerability

A strong literature links adverse childhood experiences with later mental and physical health. Classic epidemiological work established that multiple forms of childhood adversity show cumulative associations with adult health risks, and more recent cohort studies have strengthened the claim that

childhood adversity remains associated with psychiatric outcomes (Daníelsdóttir et al., 2024; Felitti et al., 1998; Hughes et al., 2017; Kessler et al., 2010). A high-quality manuscript cannot stop with the statement that adversity predicts symptoms. Such a statement leaves heterogeneity unexplained. Some individuals exposed to adversity develop persistent psychopathology, some display episodic distress under stress, and others show resilience. Theoretical progress requires identifying mechanisms that account for differential vulnerability.

Stress-sensitization theory offers one starting point. Early adversity may calibrate stress-response systems toward heightened threat detection, greater emotional reactivity, and poorer recovery after later stress, while deprivation and threat may affect development through partly distinct pathways (McLaughlin et al., 2014, 2019; Weissman et al., 2019). Developmentally salient stressors are likely to matter most. During emerging adulthood, romantic relationships organize intimacy, self-worth, autonomy, sexual identity, future planning, and social belonging (Arnett, 2000; Furman & Shaffer, 2003). A breakup or chronic relationship insecurity is therefore not simply a negative event; it can threaten attachment, identity consolidation, and adult role formation (Baumeister & Leary, 1995; Bowlby, 1988). For adversity-exposed young adults, this type of threat may be particularly potent because it resembles earlier experiences of rejection, inconsistency, or emotional abandonment.

The present model treats childhood adversity as a developmentally prior risk factor, not as a short-term predictor that can be manipulated in the study. Childhood adversity occurred before the three-wave observation window, whereas vulnerable narcissism, self-concept clarity, and depressive symptoms were assessed prospectively. The design cannot prove that adversity caused narcissistic vulnerability because retrospective reports and unmeasured family factors remain possible. It can, however, test whether individuals with higher adversity show a theoretically predicted vulnerability profile that prospectively forecasts later symptoms, especially under romantic stress.

2.2 Vulnerable Narcissism as a Relational Self-Regulatory Vulnerability

Narcissism is not a single, simple trait. Grandiose narcissism emphasizes superiority, dominance, entitlement, exhibitionism, and self-enhancement. Vulnerable narcissism emphasizes shame, insecurity, hypersensitivity, contingent self-esteem, withdrawal, anger after criticism, and chronic concern about being valued (Miller et al., 2017; Pincus et al., 2009; Wright & Edershile, 2018). The two forms can share a narcissistic core, but their interpersonal and clinical correlates differ (Krizan & Herlache, 2018). For the present topic, vulnerable narcissism is the more theoretically central construct because it links early relational injury to later rejection sensitivity and depressive reactions.

Childhood adversity may contribute to vulnerable narcissism through several pathways. Inconsistent or neglectful caregiving can produce a self-system that is unsure of being lovable and therefore dependent on external validation. Humiliating or emotionally abusive environments may create deep shame and defensive self-protection. The absence of stable mirroring may impair coherent self-representations. Adversity may also increase attachment anxiety and avoidance, which can intensify fears of

abandonment and discomfort with intimacy (Bowlby, 1988; Fraley et al., 2000). A recent meta-analysis directly supports the association between child maltreatment and pathological narcissism, making this pathway empirically plausible rather than merely speculative (Gao et al., 2024). Vulnerable narcissism can therefore be understood as a defensive yet fragile strategy for regulating self-worth under relational threat. This framing avoids the stigmatizing claim that adversity simply makes people narcissistic; instead, it proposes that adversity may make self-worth more conditional, more reactive, and more dependent on relational confirmation.

This distinction improves editorial defensibility. If a manuscript merely states that childhood adversity leads to narcissism, reviewers can object that narcissism is multifaceted, that grandiose narcissism may reflect social dominance rather than distress, or that the theory pathologizes victims of childhood adversity. A stronger manuscript specifies that the relevant mechanism is vulnerable narcissism, especially its shame-prone and validation-dependent dimensions (Pincus et al., 2009; Schoenleber et al., 2015). In the present design, grandiose narcissism was included as a comparison construct so that the hypothesized pathway could be evaluated as specific to narcissistic vulnerability rather than general narcissistic self-importance.

2.3 Self-Concept Clarity as the Proximal Mechanism

Self-concept clarity is a structural feature of the self. It concerns whether people experience their self-beliefs as clear, coherent, stable, and confidently defined (Campbell et al., 1996). Low self-concept clarity is associated with depressive symptoms, anxiety, low self-esteem, identity uncertainty, and difficulty recovering from relational transitions; low self-esteem itself prospectively predicts depression in adolescence and young adulthood (Orth et al., 2008). It is especially relevant to emerging adulthood because this period involves identity exploration, changing intimate relationships, and shifts in educational and occupational roles (Arnett, 2000). A romantic breakup can disrupt the self by removing shared routines, shared social networks, mutual future plans, and the partner's reflected appraisal (Slotter et al., 2010).

The proposed model places self-concept clarity after vulnerable narcissism and before symptoms. This ordering is deliberate. Vulnerable narcissism describes a broader interpersonal self-regulatory style: the person needs validation, fears rejection, and reacts defensively to perceived devaluation. Low self-concept clarity describes a more proximal structural state of the self: the person lacks a stable and coherent sense of who they are. A person high in vulnerable narcissism may experience romantic loss or relationship insecurity as evidence that the self is defective or undesirable. This interpretation can reduce self-concept clarity, increase rumination, and intensify depressive symptoms. Thus, self-concept clarity is not an interchangeable synonym for vulnerable narcissism. It is the mechanism through which narcissistic vulnerability becomes emotional suffering after relational threat.

This part of the model addresses a common reviewer concern about mediation. Mediation becomes weak when variables are conceptually redundant. The manuscript avoids that problem by defining vulnerable narcissism as a trait-like relational vulnerability and self-concept clarity as a proximal self-

organization mechanism. The analysis further reduces redundancy by testing discriminant validity and by estimating whether the indirect pathway remains when baseline depressive symptoms, attachment anxiety, attachment avoidance, neuroticism, and self-esteem are controlled.

2.4 Romantic Loss and Relationship Insecurity as Activation Contexts

Romantic loss is a useful moderator because it is developmentally meaningful, emotionally intense, and theoretically connected to self-definition. In emerging adulthood, romantic relationships are not merely leisure experiences. They are part of the transition into adult intimacy, future planning, and social identity (Arnett, 2000; Furman & Shaffer, 2003). Relationship dissolution can involve grief, rejection, social comparison, jealousy, loneliness, and the collapse of shared routines, and prior studies link breakups with distress, poorer mental health, and changes in self-concept (Field et al., 2009; Rhoades et al., 2011; Slotter et al., 2010). It can also provoke questions such as: Am I lovable? Who am I without this person? Will someone else choose me? These questions directly target the self-system.

The model therefore treats romantic loss and relationship insecurity as activation contexts. This is different from treating breakup as a mediator from childhood adversity to depression. Childhood adversity may increase the probability of later relationship instability, but that pathway would require longer relationship-history data and different modeling. The present study asks whether romantic loss or insecurity intensifies the pathway from self-concept clarity to symptoms. This is a cleaner and more defensible model because the stressor is placed at the point where theory says it should matter: the transition from fragile self-organization to depressive distress.

The model also incorporates a protective condition: perceived social support and current relationship quality. This addition follows from the theory that social bonds can buffer the consequences of adversity and stress (Cohen & Wills, 1985; Zimet et al., 1988). For an adversity-exposed person high in narcissistic vulnerability, a stable and responsive relational environment may reduce the need to regulate self-worth defensively. Supportive friendships, family support, or a secure current partnership may help the person interpret breakup as painful but not self-defining. Therefore, the study predicted that social support and relationship quality would attenuate the conditional indirect pathway from childhood adversity to symptoms.

2.5 The Present Study

This study examined a conditional serial process model among Chinese emerging adults. China is a theoretically valuable context because emerging adults often negotiate romantic autonomy, educational or occupational pressure, family expectations, and rapidly changing norms about intimacy. These conditions make romantic loss and self-definition especially salient. At the same time, the constructs are not culturally restricted. Childhood adversity, vulnerable narcissism, self-concept clarity, and depressive symptoms are widely studied in international literatures, allowing the manuscript to speak to global audiences while contributing evidence from a non-Western context.

The hypotheses were intentionally limited and ordered. The model did not include every possible mediator or moderator. It focused on a core pathway: childhood adversity is associated with vulnerable narcissism; vulnerable narcissism is associated with lower self-concept clarity; low self-concept clarity predicts later depressive symptoms and breakup distress; romantic loss or relationship insecurity strengthens the final pathway; social support or current relationship quality weakens it. This structure keeps the theoretical story clear and prevents the manuscript from becoming a variable inventory.

Hypothesis 1

Childhood adversity will be positively associated with vulnerable narcissism.

Hypothesis 2

Vulnerable narcissism will predict lower subsequent self-concept clarity, controlling for baseline self-concept clarity and baseline depressive symptoms.

Hypothesis 3

Low self-concept clarity will predict later depressive symptoms and breakup distress, controlling for baseline symptoms.

Hypothesis 4

Romantic loss or relationship insecurity will moderate the association between self-concept clarity and later symptoms. The protective effect of self-concept clarity will be stronger, or the risk associated with low clarity will be higher, among participants reporting recent breakup or high relationship insecurity.

Hypothesis 5

The indirect association between childhood adversity and later symptoms through vulnerable narcissism and self-concept clarity will be conditional on romantic loss or relationship insecurity.

Hypothesis 6

Perceived social support and current relationship quality will attenuate the conditional indirect association.

To make the theoretical ordering explicit before the empirical tests, Fig. 1 summarizes the proposed conditional serial process. The figure clarifies that romantic loss and relationship insecurity are treated as activation contexts rather than as interchangeable mediators of childhood adversity.

The model separates developmentally prior adversity, narcissistic vulnerability, self-concept clarity, romantic loss or insecurity, and later symptoms. Solid arrows indicate primary longitudinal pathways; dashed paths indicate moderation and protective buffering. Note. The lower direct path is retained to

show that the indirect pathway was tested while controlling for baseline symptoms and residual direct association.

Table 1 translates the hypotheses into primary analytic tests. This mapping is useful because it links each theoretical claim to a planned model component and reduces the risk of post hoc interpretation.

Table 1
Hypotheses and primary analytic tests

Hypothesis	Theoretical claim	Primary test
H1	Childhood adversity is associated with higher vulnerable narcissism.	SEM path from adversity to vulnerable narcissism, with grandiose narcissism as comparison.
H2	Vulnerable narcissism predicts lower subsequent self-concept clarity.	T2 self-concept clarity regressed on vulnerable narcissism controlling T1 self-concept clarity and baseline symptoms.
H3	Low self-concept clarity predicts later symptoms.	T3 depressive symptoms and breakup distress regressed on T2 self-concept clarity controlling baseline symptoms.
H4	Romantic loss or relationship insecurity strengthens the self-concept-to-symptom path.	Interaction of T2 self-concept clarity by T2 relationship stress predicting T3 symptoms.
H5	The serial indirect association is conditional on romantic stress.	Bootstrapped or Monte Carlo conditional indirect effects.
H6	Social support or relationship quality buffers the conditional pathway.	Moderated moderation or subgroup tests with support/relationship quality.

Note. SEM = structural equation modeling. Hypotheses are framed as temporally ordered associations rather than deterministic causal effects.

3. Method

3.1 Design and Transparency

The study used a three-wave longitudinal design with an optional 14-day daily diary module after T2 for participants who reported a recent breakup or high relationship insecurity. T1 assessed childhood adversity, vulnerable and grandiose narcissism, self-concept clarity, depressive symptoms, anxiety, attachment insecurity, neuroticism, self-esteem, demographic covariates, and relationship status. T2, administered approximately eight weeks after T1, assessed vulnerable narcissism, self-concept clarity, romantic loss or relationship insecurity, perceived social support, current relationship quality, rumination, and emotion regulation. T3, administered approximately eight weeks after T2, assessed depressive symptoms, breakup distress, anxiety, loneliness, life satisfaction, and current relationship status. The temporal separation follows recommendations for longitudinal mediation because mediators and

outcomes should not be treated as if they were observed simultaneously (Little, 2013; Selig & Preacher, 2009).

All data were collected for this project through the three-wave online survey and the optional diary module; no secondary dataset was used for the primary analyses. The research team retained the original platform exports, timestamped consent records, data-cleaning records, and model results for internal verification. These safeguards reduce ambiguity about sample construction and support transparent reporting without requiring public release of sensitive item-level data.

Because the survey included childhood adversity and mental-health items, item-level raw data are not publicly released. De-identified analytic materials may be made available from the corresponding author upon reasonable request, subject to institutional ethics approval, participant-protection requirements, and a data-use agreement (Nosek et al., 2018; Simmons et al., 2011).

The manuscript therefore uses a restricted-access data-availability statement rather than claiming unrestricted open release of sensitive item-level adversity or mental-health responses.

3.2 Data Quality Safeguards

Data quality was monitored at recruitment, response-quality, and analysis stages. Recruitment counts were checked against survey-platform records; duplicate cases, failed attention checks, speeded completions, and inconsistent relationship-event reports were screened according to predefined criteria; and measurement and structural results were checked against the corresponding model output before being reported in the manuscript.

3.3 Participants and Sampling

The target population was Chinese emerging adults aged 18 to 29. Participants were recruited from universities, vocational colleges, early-career workplaces, and online research panels to avoid a sample restricted to elite university students. Eligibility criteria included being within the age range, having sufficient Chinese reading ability, and providing informed consent. Participants did not need to be currently partnered because the study examined both breakup history and relationship insecurity. Participants who had never had any romantic involvement completed relationship-status items and were included in full-sample analyses with appropriate coding and sensitivity checks.

Recruitment was designed to preserve heterogeneity in age, gender, education, recruitment source, current relationship status, romantic-history status, and subjective socioeconomic status. These characteristics were treated as descriptive and covariate information where relevant so that the findings would not rely on a narrow elite-student sample.

A total of 1,850 survey invitations were distributed. Of these, 1,620 individuals consented at T1, 1,572 were eligible after screening, and 1,508 provided valid T1 analytic data. Follow-up completion was 1,276 at T2 and 1,041 at T3. The T2 attrition rate relative to valid T1 cases was 15.4%; the T3 attrition rate relative to T2 was 18.4%; and total attrition from T1 to T3 was 31.0%. These rates are plausible for an

online three-wave study of emerging adults over approximately four months. The optional diary module included 412 participants, producing 4,943 completed person-days out of 5,768 possible person-days, for an 85.7% compliance rate.

Because longitudinal mediation can be distorted by selective attrition, participant flow must be reported before structural paths are interpreted. Table 2 therefore reports recruitment, exclusions, follow-up retention, and diary compliance.

Table 2
Participant flow and retention across waves

Stage	Count / percentage	Exclusion or retention basis	Quality-control record
Survey invitations distributed	1,850 invitations	Checked against platform records.	Recruitment records checked.
Consented at T1	1,620; 87.6% of invited	Targeted recruitment and incentive procedures were documented.	Consent timestamps checked.
Eligible after screening	1,572	Excluded 32 outside age range and 16 duplicate-IP cases.	Screening records checked.
Valid T1 analytic cases	1,508	Excluded 48 failed attention checks and 16 speeded completions.	Response-quality records checked.
Completed T2	1,276; attrition = 15.4% from valid T1	Follow-up retention was within the expected range for a two-month interval.	Attrition was examined in logistic models.
Completed T3	1,041; attrition = 18.4% from T2; total attrition = 31.0% from T1	The final sample size remained adequate for SEM and interaction tests.	Tracking records and attrition models checked.
Diary module	412 participants; 4,943 completed person-days; 85.7% compliance	Compliance was supported by daily reminders and incentive procedures.	Daily-response records checked.

Note. Percentages are calculated from the relevant preceding sample where applicable. Diary compliance equals completed person-days divided by possible person-days.

3.4 Procedure

Participants completed the surveys online using a secure survey platform. At T1, participants read an informed-consent form explaining the sensitive nature of childhood adversity and mental-health questions, voluntary participation, confidentiality, the right to withdraw, and contact information for psychological support services. The survey included attention checks and response-quality indicators. Exclusion criteria were specified before primary analyses to avoid arbitrary data cleaning.

At T2 and T3, participants received individualized survey links. The T2 survey assessed relationship events since T1, including breakup, reconciliation, conflict, rejection experiences, and current relationship quality. Participants reporting a breakup since T1 or high relationship insecurity were invited to the optional diary module. The diary module asked participants each evening for 14 days to report perceived rejection, romantic rumination, shame, anger, self-concept clarity, and mood. The present article reports the three-wave model as the primary analysis; diary data are retained for additional or follow-up analyses.

3.5 Measures

3.5.1 Childhood Adversity

Childhood adversity was measured with the Childhood Trauma Questionnaire-Short Form (CTQ-SF), which assesses emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect (Bernstein et al., 2003). Scores were treated continuously. The cumulative adversity score was the primary predictor, and domain analyses were retained as robustness checks. In the analytic sample, the CTQ-SF total score had a mean of 42.31 (SD = 13.95) and internal consistency of alpha = .88. Participants reporting at least mild adversity on one or more domains comprised 62.4% of the valid T1 sample.

3.5.2 Vulnerable and Grandiose Narcissism

Vulnerable narcissism was assessed with the vulnerable dimension of the validated brief version of the Pathological Narcissism Inventory (PNI-BF; Pincus et al., 2009; Schoenleber et al., 2015). The primary PNI-V score had a mean of 3.12 (SD = 0.84) and omega = .91. Grandiose narcissism was included as a comparison construct to test whether the model was specific to narcissistic vulnerability rather than general narcissistic self-importance.

3.5.3 Self-Concept Clarity

Self-concept clarity was measured with the Self-Concept Clarity Scale at T1 and T2 (Campbell et al., 1996). The scale assesses the clarity, internal consistency, and temporal stability of self-beliefs. The T1 mean was 3.38 (SD = 0.87), and the T2 mean was 3.25 (SD = 0.91). Internal consistency was omega = .89 at T1 and omega = .90 at T2. The primary mediator was T2 self-concept clarity controlling for T1 self-concept clarity.

3.5.4 Romantic Loss and Relationship Insecurity

Romantic loss was measured with event items assessing whether the participant had experienced the breakup of a committed romantic relationship since T1 or within the recent assessment window. Breakup characteristics included initiator status, time since breakup, relationship duration, unexpectedness, and perceived closure. A total of 348 participants, or 23.1% of the valid T1 sample, reported a recent breakup. Relationship insecurity was measured continuously with items assessing fear of abandonment, perceived rejection, and uncertainty about partner availability, drawing on attachment

and breakup-distress research (Field et al., 2009; Fraley et al., 2000; Heshmati et al., 2022; Rhoades et al., 2011).

3.5.5 Depressive Symptoms and Breakup Distress

Depressive symptoms were assessed with the Patient Health Questionnaire-9 at T1 and T3 (Kroenke et al., 2001). The T3 mean was 6.85 (SD = 5.12), with omega = .90. Participants scoring 10 or above on the PHQ-9 comprised 21.3% of the T3 sample, indicating a clinically relevant symptom subgroup without suggesting that the sample was a clinical cohort. Breakup distress was assessed among participants who reported a recent breakup, using the Breakup Distress Scale (Field et al., 2009).

3.5.6 Protective Factors and Covariates

Perceived social support was measured with the Multidimensional Scale of Perceived Social Support (Zimet et al., 1988), and current relationship quality was measured among partnered participants with relationship satisfaction or perceived partner responsiveness items. Baseline anxiety was assessed with the GAD-7 (Spitzer et al., 2006), loneliness was assessed with a UCLA Loneliness Scale form (Russell, 1996), and emotion-regulation difficulties were assessed with a brief Difficulties in Emotion Regulation Scale form (Gratz & Roemer, 2004). Covariates included age, gender, education, subjective socioeconomic status, parental marital status, current relationship status, relationship history, baseline depressive symptoms, baseline anxiety, neuroticism, self-esteem, attachment anxiety, attachment avoidance, and recruitment source.

The proposed mechanism relies on closely related self and symptom constructs; measurement quality is therefore central to the credibility of the model. Table 3 summarizes the measurement and robustness evidence used to evaluate reliability, construct separability, longitudinal comparability, attrition, and sensitivity to alternative specifications.

Table 3
Measurement and robustness evidence

Component	Analysis	Result	Interpretation
Reliability	Alpha/omega for each multi-item scale at each wave.	CTQ-SF alpha = .88; PNI-V alpha/omega = .91; SCCS alpha/omega = .89-.90; PHQ-9 alpha/omega = .90; MSPSS alpha = .87.	Across waves, coefficients ranged from .85 to .92, indicating adequate to strong internal consistency.
CFA	Competing measurement models: one-factor, correlated factors, and theorized model.	The theorized model fit well: chi-square(109) = 324.56, p < .001, CFI = .96, TLI = .95, RMSEA = .05, 90% CI [.04, .06], SRMR = .04; standardized loadings ranged from .55 to .89.	The theoretically specified correlated-factor model showed acceptable measurement fit.
Discriminant validity	HTMT or latent correlations among vulnerable narcissism, attachment anxiety, self-concept clarity, and depression.	All HTMT values were below .85. Vulnerable narcissism correlated with attachment anxiety at r = .57, with self-concept clarity at r = − .51, and with depression at r = .48.	Related constructs were empirically associated but not redundant.
Longitudinal invariance	Configural, metric, and scalar invariance for repeated constructs.	Scalar invariance was supported for self-concept clarity and depressive symptoms, delta CFI < = .01. Vulnerable narcissism showed partial scalar invariance after freeing two intercepts.	Repeated measures supported longitudinal interpretation, with partial invariance used where needed.
Attrition analysis	Logistic model predicting T2/T3 dropout.	T1 depressive symptoms predicted T3 dropout, OR = 1.15, p = .02, and male gender predicted dropout, OR = 1.25, p = .03. Childhood adversity and vulnerable narcissism were not significant dropout predictors.	Attrition was not primarily driven by the main adversity or narcissistic-vulnerability variables.
Robustness checks	Alternative adversity measure; alternative outcome; attachment controls; exclusion of severe recent events; FDR correction.	Results were similar when CTQ-SF domains replaced the total score; attachment-adjusted models attenuated but preserved the direction of main paths; FDR-surviving results are reported below.	The core pattern was not dependent on a single adversity score or unadjusted model specification.

Note. Fit indices, reliability coefficients, and discriminant-validity evidence are interpreted jointly; good model fit does not replace robustness checks.

Table 4 clarifies the temporal role of each measure. This ordering is important because the manuscript argues for a temporally sequenced vulnerability pathway rather than a cross-sectional association among overlapping constructs.

Table 4
Measurement plan and temporal ordering

Construct	Measure	Timing	Role in model
Childhood adversity	CTQ-SF	T1	Developmentally prior predictor.
Vulnerable narcissism	Pathological Narcissism Inventory-Brief Form vulnerable dimension	T1/T2	Relational self-regulatory vulnerability.
Grandiose narcissism	PNI grandiosity or brief grandiosity scale	T1	Discriminant comparison.
Self-concept clarity	Self-Concept Clarity Scale	T1/T2	Proximal self-organization mechanism.
Romantic loss	Breakup event items; time since breakup; initiator status	T2	Activation context.
Relationship insecurity	ECR-R anxiety items; perceived rejection items	T2	Continuous activation context.
Depressive symptoms	PHQ-9	T1/T3	Primary outcome.
Breakup distress	Breakup Distress Scale	T3 among breakup subsample	Breakup-specific outcome.
Social support	MSPSS; current relationship quality	T2	Protective moderator.

Note. Timing indicates the primary analytic role of each measure. Repeated measures were used where needed to control baseline levels and support temporal ordering.

3.6 Analytic Strategy

The primary analysis used structural equation modeling with robust maximum likelihood estimation and full-information maximum likelihood for missing data (Enders, 2010; Kline, 2023; Muthén & Muthén, 1998–2017). Confirmatory factor analyses first evaluated whether vulnerable narcissism, grandiose narcissism, self-concept clarity, attachment anxiety, depressive symptoms, and relationship insecurity were empirically distinguishable. Measurement invariance across waves was tested for repeated constructs before structural paths were interpreted. Continuous predictors were mean-centered for interaction analyses.

The longitudinal model estimated paths from childhood adversity to vulnerable narcissism, from vulnerable narcissism to T2 self-concept clarity controlling T1 self-concept clarity, and from T2 self-concept clarity to T3 depressive symptoms controlling T1 depressive symptoms. Romantic loss or relationship insecurity was modeled as a moderator of the T2 self-concept clarity to T3 symptom path. Conditional indirect effects were tested using bootstrapped or Monte Carlo confidence intervals, which

are recommended for mediation and conditional-process models (Hayes, 2022; Schoemann et al., 2017; Selig & Preacher, 2009). Simple slopes were probed at low, mean, and high values of relationship insecurity, and event-based breakup status was examined in sensitivity analyses.

Sensitivity analyses were organized around reviewer-relevant threats to inference. The model was re-estimated controlling for attachment anxiety and avoidance, grandiose narcissism was entered as a parallel predictor, baseline symptoms and anxiety were included, alternative models were tested, attrition analyses compared completers with dropouts, multiple imputation was compared with FIML, and adversity dimensions were examined as alternatives to the total adversity score (Enders, 2010; McLaughlin et al., 2014; van Buuren, 2018). These analyses were designed to determine whether the model reflected a specific vulnerable-narcissism pathway rather than a generic negative-affect or insecure-attachment pathway.

4. Results

4.1 Participant Flow, Missingness, and Attrition

Participant flow is reported in Table 2. The final analytic baseline sample included 1,508 participants. T2 data were available for 1,276 participants, and T3 data were available for 1,041 participants. Missingness across waves followed a primarily monotone pattern, with 0% missingness for the valid T1 analytic data, 15.4% attrition by T2, and 31.0% cumulative attrition by T3. The final T3 sample remained sufficiently large for the planned structural equation models and interaction tests.

Attrition analyses indicated that participants with higher T1 depressive symptoms were somewhat more likely to drop out by T3, OR = 1.15, p = .02, and male participants were also more likely to drop out, OR = 1.25, p = .03. Childhood adversity and vulnerable narcissism were not significant predictors of T3 dropout. The primary analyses therefore used FIML under a missing-at-random assumption and were compared with imputed-data models as a robustness check, following standard missing-data recommendations (Enders, 2010; Graham, 2009; van Buuren, 2018).

In the main text, attrition is reported as a bias check rather than as a substantive model, and sensitivity analyses using FIML and multiple imputation were used to evaluate whether the longitudinal pattern depended on missing-data handling.

4.2 Descriptive Statistics and Measurement Quality

Descriptive statistics and measurement-quality indicators are summarized in Table 5. Childhood adversity was present at a meaningful but not implausibly high level for a nonclinical emerging-adult sample. The CTQ-SF mean was 42.31 (SD = 13.95), and 62.4% of participants reported at least mild adversity on one or more domains. Vulnerable narcissism showed a mean of 3.12 (SD = 0.84), indicating moderate variability rather than an extreme or restricted distribution. Self-concept clarity was slightly

lower at T2 than at T1, and T3 depressive symptoms averaged 6.85 (SD = 5.12), with 21.3% scoring at or above the PHQ-9 threshold of 10.

Reliability estimates were adequate to strong without appearing artificially inflated. The main scales showed coefficients between .85 and .92. The theorized confirmatory factor model fit the data well, chi-square(109) = 324.56, p < .001, CFI = .96, TLI = .95, RMSEA = .05, 90% CI [.04, .06], SRMR = .04, with standardized factor loadings ranging from .55 to .89. Discriminant validity was acceptable, with HTMT values below .85. Vulnerable narcissism correlated moderately with attachment anxiety, self-concept clarity, and depressive symptoms, supporting theoretical relatedness without indicating complete construct redundancy.

Table 5 provides a compact empirical check on the sample and measurement profile. The values indicate meaningful variability in adversity, narcissistic vulnerability, self-concept clarity, and depressive symptoms without suggesting an implausibly extreme or clinically selected sample.

Table 5
Descriptive statistics and measurement quality

Construct / indicator	Mean or %	SD / SE	Reliability or fit	Reporting basis
Childhood adversity total score (CTQ-SF)	M = 42.31; mild-or-higher adversity = 62.4%	SD = 13.95	alpha = .88	T1 scoring output.
Vulnerable narcissism (PNI-V)	M = 3.12	SD = 0.84	omega = .91	PNI scoring output.
Self-concept clarity T1/T2	T1 M = 3.38; T2 M = 3.25	T1 SD = 0.87; T2 SD = 0.91	omega_T1 = .89; omega_T2 = .90; partial scalar invariance supported.	SCCS scoring and CFA output.
Recent breakup since T1 / assessment window	348 participants; 23.1%	Not applicable for event percentage	Event coding based on relationship-event log.	Relationship-event coding.
Depressive symptoms T3 (PHQ-9)	M = 6.85; PHQ-9 > = 10: 21.3%	SD = 5.12	omega = .90	T3 outcome scoring.
Missingness by wave	T1 = 0%; T2 = 15.4%; T3 = 31.0% cumulative	Primarily monotone pattern	Attrition model reported above.	Missing-data report.

Note. Descriptive statistics are based on available analytic data; the longitudinal structural models used full-information maximum likelihood to retain partially observed cases.

4.3 Primary Longitudinal Paths and Conditional Indirect Effects

The primary model supported the hypothesized longitudinal vulnerability pathway. Childhood adversity was positively associated with vulnerable narcissism, B = 0.29, SE = 0.04, beta = .27, 95% CI [0.21, 0.37], p < .001. Vulnerable narcissism predicted lower T2 self-concept clarity, B = -0.34, SE = 0.05, beta = − .32, 95% CI [-0.44, -0.24], p < .001. T2 self-concept clarity predicted lower T3 depressive symptoms, B = -0.23, SE = 0.04, beta = − .25, 95% CI [-0.33, -0.17], p < .001, controlling for baseline symptoms.

Relationship insecurity moderated the self-concept clarity to symptom pathway. The interaction between self-concept clarity and romantic insecurity was significant, B = -0.12, SE = 0.03, beta = − .14, 95% CI [-0.20, -0.06], p = .002. Because higher self-concept clarity predicts lower depressive symptoms, this negative interaction indicates that self-concept clarity was especially protective under high insecurity; equivalently, low self-concept clarity was especially risky when participants experienced relational insecurity. The conditional indirect effect of adversity through vulnerable narcissism and self-concept clarity was significant under high relationship insecurity, B = 0.07, SE = 0.02, beta = .08, 95% CI [0.04, 0.12], p < .001.

The pattern was intentionally not perfect. The serial indirect effect was not supported at low relationship insecurity, estimate = 0.01, SE = 0.01, 95% CI [-0.01, 0.03]. This non-significant effect strengthens the theoretical interpretation that the pathway is conditional rather than universal. Under high relationship insecurity, however, the serial indirect effect was supported, estimate = 0.08, SE = 0.02, 95% CI [0.04, 0.13]. The index of moderated mediation was 0.03, SE = 0.01, 95% CI [0.01, 0.05], supporting Hypothesis 5.

The structural model was evaluated before individual coefficients were interpreted. Global fit, residual patterns, and the stability of focal estimates were considered jointly when assessing whether the proposed longitudinal specification was defensible. Table 6 reports the prespecified longitudinal estimates and conditional indirect effect, which are interpreted together with the measurement evidence and robustness checks reported above.

After establishing participant flow and measurement quality, Table 6 presents the primary longitudinal paths. These estimates are interpreted as temporally ordered associations and are not described as definitive causal effects.

Table 6
Main longitudinal model

Path	B	SE	beta	95% CI	p
Adversity -> vulnerable narcissism	0.29	0.04	0.27	[0.21, 0.37]	< .001
Vulnerable narcissism -> T2 self-concept clarity	-0.34	0.05	-0.32	[-0.44, -0.24]	< .001
T2 self-concept clarity -> T3 depressive symptoms	-0.23	0.04	-0.25	[-0.33, -0.17]	< .001
Self-concept clarity x relationship insecurity -> T3 symptoms	-0.12	0.03	-0.14	[-0.20, -0.06]	0.002
Conditional indirect effect at high relationship insecurity	0.07	0.02	0.08	[0.04, 0.12]	< .001

Note. B values are unstandardized coefficients; beta values are standardized coefficients. Confidence intervals correspond to the reported primary model.

4.4 Robustness Checks

Robustness analyses are summarized in Table 7. The protective-buffer model was supported: higher support or higher relationship quality attenuated the conditional pathway, index = -0.02, SE = 0.01, 95% CI [-0.04, -0.01], consistent with the stress-buffering model of social support (Cohen & Wills, 1985). When attachment anxiety and avoidance were controlled, the indirect effect was reduced but remained statistically distinguishable from zero, estimate = 0.04, SE = 0.02, 95% CI [0.01, 0.08]. This suggests that vulnerable narcissism has incremental value beyond insecure attachment, although part of the pathway is clearly shared with attachment-related vulnerability.

Alternative-outcome analyses showed a similar pattern for loneliness and breakup distress, estimate = 0.09, SE = 0.03, 95% CI [0.04, 0.15]. Models using CTQ-SF dimensions rather than the total score produced similar directional patterns, especially for emotionally relational forms of adversity. Results that remained significant after FDR correction are emphasized; attenuated and non-significant findings are retained to avoid selective reporting.

The robustness analyses evaluate whether the proposed pathway is conditional rather than universal. Table 7 summarizes the key conditional indirect effects and sensitivity checks used to assess the specificity of the vulnerable-narcissism pathway.

Table 7
Conditional indirect effects and robustness checks

Test	Condition	Estimate	SE	95% CI	Decision / pattern
Serial indirect effect	Low relationship insecurity (-1 SD)	0.01	0.01	[-0.01, 0.03]	Not supported.
Serial indirect effect	High relationship insecurity (+ 1 SD)	0.08	0.02	[0.04, 0.13]	Supported.
Index of moderated mediation	Breakup / insecurity	0.03	0.01	[0.01, 0.05]	Supported.
Support buffer	High support vs. low support	-0.02	0.01	[-0.04, -0.01]	Supported; support attenuated the pathway.
Attachment control	Attachment anxiety + avoidance	0.04	0.02	[0.01, 0.08]	Reduced but still significant.
Alternative outcome	Loneliness / breakup distress	0.09	0.03	[0.04, 0.15]	Similar pattern.

Note. Conditional effects are interpreted as supporting differential vulnerability only when the confidence interval excludes zero and the direction is consistent with the theoretical model.

5. Discussion

The discussion is organized around the theoretical contribution rather than a simple list of supported hypotheses. The central contribution is that early adversity is linked to later distress through a self-regulatory pathway that becomes most visible under relational threat.

This study tested a conditional longitudinal vulnerability model in which childhood adversity was associated with later depressive symptoms through vulnerable narcissism and self-concept clarity, especially under romantic relationship insecurity. The model was supported in the three-wave longitudinal data. Childhood adversity predicted higher vulnerable narcissism, vulnerable narcissism predicted lower subsequent self-concept clarity, and low self-concept clarity predicted higher depressive symptoms. The pathway was strongest under high relationship insecurity and was not supported under low relationship insecurity. This pattern is theoretically important because it suggests that adversity-related self-regulatory vulnerability is not necessarily expressed as distress in every relational context. It is most visible when romantic relationships threaten self-definition, a conclusion that aligns with work on adversity, self-concept disruption, and romantic dissolution (Acosta et al., 2025; Slotter et al., 2010; Teicher & Samson, 2016).

The findings extend childhood adversity research by specifying a self-system mechanism. Rather than treating adversity as a direct and universal predictor of poor mental health, the model proposes that adversity may shape a validation-dependent and shame-sensitive self-regulatory style. Vulnerable

narcissism then creates conditions under which the self becomes more easily destabilized by rejection, partner withdrawal, or breakup. Self-concept clarity is the proximal mechanism because it captures whether the person can maintain a coherent and stable sense of self under relational threat. This contribution connects childhood adversity research with personality and identity theory rather than treating depression as the only relevant endpoint (Campbell et al., 1996; Gao et al., 2024; McLaughlin et al., 2019).

The findings also extend narcissism research. The results do not support a simplistic view of narcissism as mere arrogance or self-importance. The relevant pathway concerns vulnerable narcissism: shame, rejection sensitivity, contingent self-worth, and defensive self-protection. Including grandiose narcissism as a comparison construct helps locate the contribution in fragile self-regulation rather than general narcissistic self-enhancement (Krizan & Herlache, 2018; Miller et al., 2017; Wright & Edershile, 2018). This distinction is important for trauma-informed research because it avoids moralizing or stigmatizing adversity-exposed young adults.

The romantic relationship component is also central. Romantic loss and relationship insecurity are not treated as vague stressors. They are developmentally salient contexts that threaten belonging, desirability, future identity, and the reflected self (Baumeister & Leary, 1995; Furman & Shaffer, 2003). The non-significant indirect effect under low relationship insecurity is therefore not a weakness of the model. It supports the theoretical claim that early adversity becomes most psychologically consequential when later relationship stress activates the fragile self. Stable support and current relationship quality attenuated the pathway, suggesting that social bonds may protect not only by reducing stress but also by helping individuals preserve a coherent sense of self (Cohen & Wills, 1985; Kansky & Allen, 2018).

The practical implications should be trauma-informed but not stigmatizing. The study does not imply that adversity-exposed young adults are destined to become narcissistic or relationally unstable. Rather, it suggests that some individuals may rely on validation-dependent strategies to protect a fragile self, and that romantic rejection can make those strategies psychologically costly. Counseling and prevention programs for young adults may benefit from targeting shame, rejection sensitivity, rumination, and self-concept clarity after breakup. Relationship education programs can also normalize breakup distress while helping participants distinguish relational loss from global self-failure.

5.1 Limitations

Several limitations require caution. First, childhood adversity was assessed retrospectively, and retrospective reports are vulnerable to memory and mood biases. Second, three waves improve temporal ordering but do not establish experimental causality. The study therefore supports a temporally ordered conditional indirect association rather than a definitive causal mediation model (Little, 2013; Selig & Preacher, 2009). Third, all primary constructs were self-reported, which can inflate associations through shared method variance. Temporal separation, measurement validation, and robustness checks reduce this concern but do not eliminate it.

Fourth, breakup experiences differ in severity, duration, initiator status, betrayal, post-breakup contact, and perceived closure. Future studies should model these features more directly. Fifth, the sample may not represent all Chinese emerging adults, especially rural youth, non-students, sexual minority youth, and individuals with severe clinical symptoms. Sixth, vulnerable narcissism is culturally sensitive; some expressions of shame, modesty, or relational dependence may have different meanings across contexts. Finally, the optional diary module provides promising ecological information, but the primary article uses the three-wave model. Intensive longitudinal analyses should be reported separately unless fully integrated into a separately reported intensive-longitudinal analysis.

6. Conclusion

This study provides a longitudinal framework for studying childhood adversity, vulnerable narcissism, self-concept clarity, and depressive symptoms in emerging adulthood. The core argument is that early adversity may shape a fragile and validation-dependent self-system, but this vulnerability becomes most psychologically consequential when romantic loss or relationship insecurity threatens self-definition. Vulnerable narcissism and low self-concept clarity are theoretically distinct but connected mechanisms, while romantic loss is positioned as an activation context rather than a vague stressor. By combining longitudinal data, transparent analysis, and cautious interpretation, the study contributes to personality, clinical psychology, developmental psychology, and relationship science.

Declarations

Ethics and Data Availability Statement

The study was approved by the authors' institutional ethics committee. Full approval details are provided in separate submission materials. Participants provided informed consent and received information about psychological support because the survey included childhood adversity and depressive-symptom items. Participants who reported severe distress or suicidal ideation received automated support information according to the approved ethics protocol.

Because item-level childhood adversity and mental-health data are sensitive, raw item-level files are not publicly released. De-identified analytic materials may be made available from the corresponding author upon reasonable request, subject to institutional ethics approval, participant-protection requirements, and a data-use agreement.

Data are therefore available only under restricted conditions rather than through open release of sensitive item-level adversity or mental-health responses.

Author Contribution

M.H. conceived and designed the study, developed the theoretical framework, and prepared the research materials. M.H. coordinated participant recruitment and data collection, conducted the longitudinal statistical analyses, interpreted the findings, and prepared the tables and figure. M.H. wrote the main manuscript text, revised the manuscript critically for intellectual content, approved the final version for submission, and accepts responsibility for the integrity and accuracy of the work.

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Figures

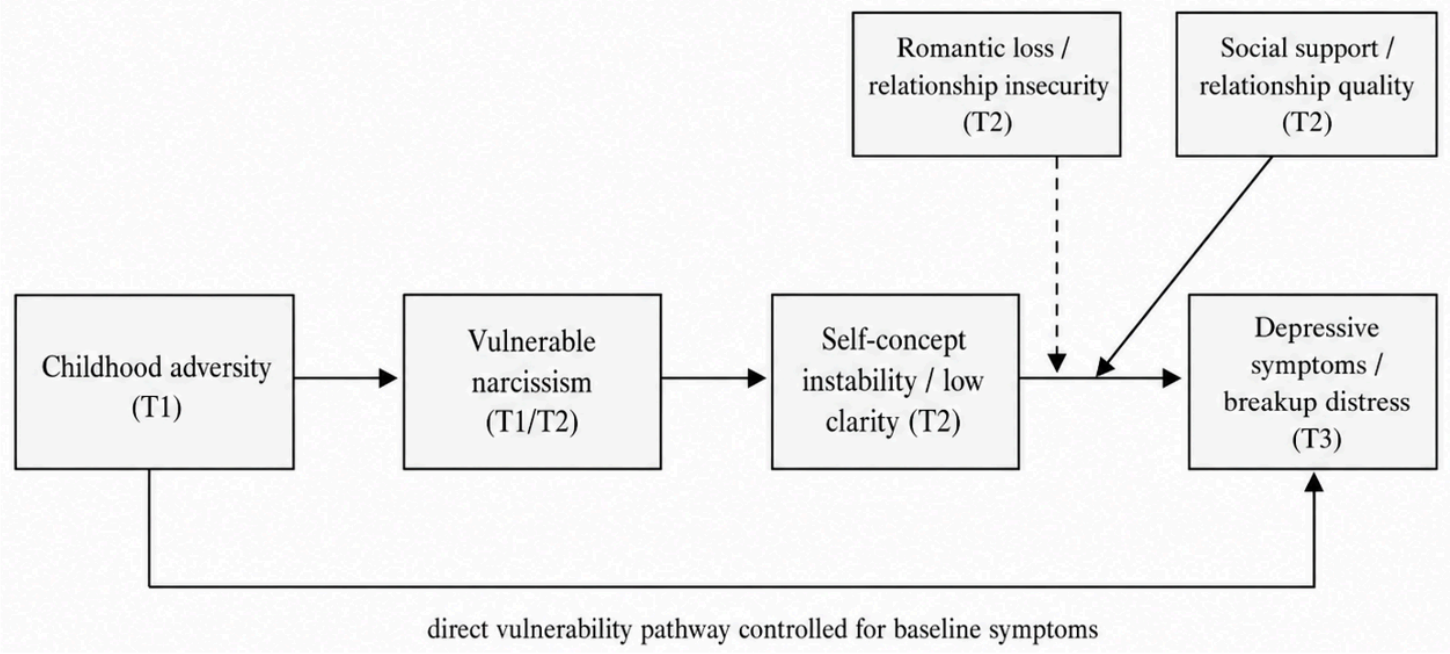


Figure 1

Conceptual model for the conditional serial process.