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Anxious Attachment and Intimate Relationship Satisfaction: The Roles of Intolerance of Uncertainty and Perceived Partner Responsiveness

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ABSTRACT

Objective: To explore the effect of anxious attachment on intimate relationship satisfaction, and examine the mediating role of intolerance of uncertainty as well as the moderating effect of perceived partner responsiveness. Methods: A questionnaire survey was conducted among 411 individuals in intimate relationships using the Experiences in Close Relationships-Anxiety Subscale, Short-form Intolerance of Uncertainty Scale, Perceived Partner Responsiveness Scale, and Relationship Assessment Scale. Results: Anxious attachment significantly negatively predicted intimate relationship satisfaction; intolerance of uncertainty partially mediated this association; perceived partner responsiveness moderated the predictive effect of anxious attachment on intolerance of uncertainty, and high perceived partner responsiveness buffered the negative impact of anxious attachment on intimate relationship satisfaction. Conclusion: Anxious attachment impairs intimate relationship satisfaction both directly and indirectly by elevating intolerance of uncertainty, while perceived partner responsiveness effectively mitigates such adverse effects.

KEYWORDS: anxious attachment, intolerance of uncertainty, perceived partner responsiveness, intimate relationship satisfaction, moderated mediation model

1. INTRODUCTION

Intimate relationship satisfaction refers to individuals' subjective evaluation of their romantic bonds, serving as a core indicator of relationship quality [1]. According to social exchange theory, people continuously evaluate costs and benefits within intimate relationships; stable and satisfying emotional connections can only be formed when individuals perceive sufficient understanding, support and responsiveness from their partners [2]. Nevertheless, China's marital landscape faces prominent challenges characterized by continuously declining marriage rates and persistently high divorce rates [3,4]. Insecurity, misunderstanding and lack of support in romantic unions have become critical barriers to high-quality intimate relationships. Therefore, investigating

dispositional individual factors and their underlying mechanisms shaping intimate relationship satisfaction carries important theoretical and practical implications.

Among individual predictors of romantic relationship quality, anxious attachment has attracted extensive scholarly attention. Attachment theory posits that internal working models of self and others are constructed through early interactions with primary caregivers, which continuously shape cognition, emotion and behavior in adult intimate relationships [5]. Individuals with high anxious attachment hold intense fear of abandonment and exhibit hypersensitivity to partners' responses, rendering them prone to experience uncertainty and emotional distress within relationships [6]. Prior empirical evidence has confirmed a robust negative correlation between anxious attachment and relationship satisfaction [7]. Accordingly, Hypothesis 1 is proposed: Anxious attachment negatively predicts intimate relationship satisfaction (H1).

Anxious attachment exerts influences on relationship satisfaction through more than a single direct pathway. Intolerance of uncertainty describes a spectrum of negative cognitive, emotional and behavioral reactions triggered by ambiguous or unpredictable circumstances [8]. Highly anxiously attached individuals tend to interpret ambiguous relational cues as potential threats [9]. Meanwhile, security represents a sense of certainty and control when confronting potential threats, which constitutes the core component of psychological safety [10]. Individuals with elevated intolerance of uncertainty suffer diminished security perceptions, which obstructs the formation of satisfying romantic bonds [11,12]. Thus, this study hypothesizes that intolerance of uncertainty acts as a vital mediator linking anxious attachment to intimate relationship satisfaction (H2).

Furthermore, perceived partner responsiveness may exert a moderating function in this serial association. Perceived partner responsiveness denotes the extent to which individuals feel understood, validated and cared for by their partners [13]. Drawing on the interpersonal process model of intimacy, perceived comprehension and responsiveness from partners reinforce personal security and trust, alleviating maladaptive cognitions and emotional distress stemming from anxious attachment [14]. Existing research demonstrates that perceived partner responsiveness buffers insecurity among highly anxiously attached individuals and improves their relationship quality [15]. Even with elevated anxious attachment, individuals who perceive high partner responsiveness may attenuate negative perceptions of relational ambiguity and maintain satisfactory relationship functioning. Therefore, Hypothesis 3 is proposed: Perceived partner responsiveness moderates the indirect pathway from anxious attachment to intimate relationship satisfaction via intolerance of uncertainty (H3).

In summary, grounded in attachment theory and the interpersonal process model of intimacy, this study constructs a moderated mediation model to examine the predictive effect of anxious attachment on intimate relationship satisfaction, with a specific focus on the mediating pathway of intolerance of uncertainty and the moderating role of perceived partner responsiveness. The findings provide empirical evidence for unpacking the internal mechanisms through which anxious attachment undermines romantic satisfaction.

2. METHODS

2.1 Participants

Participants were adults engaged in stable intimate romantic relationships. Questionnaires were distributed both online and offline: online surveys were shared via WeChat Moments links and QR codes targeting acquaintances with romantic partners; offline data collection was conducted at commercial plazas and university campuses across Guangzhou, with random invitations extended to student couples and passerby romantic dyads.

A total of 457 questionnaires were distributed. Invalid responses were excluded based on the following criteria: participants reporting single status, failed attention check items, completion time shorter than one minute, random filling, and patterned repetitive responses. The final valid sample consisted of 411 participants, yielding an effective response rate of 89.9%. The sample included 145 males (35.2%) and 266 females (64.7%), with a mean age of 23.99 years (*SD* = 4.20).

2.2 Measures

2.2.1 Anxious Attachment

The Anxiety Subscale of the Chinese version of the Experiences in Close Relationships Scale (ECR), originally developed by Brennan et al. and translated/revised by Li & Kato, was adopted to measure anxious attachment [16]. The subscale assesses longing for emotional closeness and fear of abandonment in romantic partners, containing 18 items rated on a 7-point Likert scale (1=strongly disagree, 7=strongly agree). Item 11 is reverse-scored, and higher total scores indicate greater attachment anxiety. In the present study, the Cronbach's α coefficient of this scale was 0.932.

2.2.2 Intolerance of Uncertainty

The 12-item Short-form Intolerance of Uncertainty Scale (IUS-12), developed by Carleton et al. and culturally adapted for Chinese populations by Wu et al., was used [17,18]. The scale comprises three dimensions: prospective behavior, inhibitory behavior, and prospective emotion. All items adopt a 5-point Likert scoring format (1=strongly inconsistent, 5=strongly consistent), with higher total scores reflecting greater intolerance of uncertainty. The Cronbach's α of the scale in this research was 0.908.

2.2.3 Perceived Partner Responsiveness

The Chinese revised Perceived Partner Responsiveness Scale (PPRS) translated and validated by Yang et al. was utilized [19]. The scale includes 12 items scored on a 7-point Likert scale (1=completely inconsistent, 7=completely consistent); higher aggregate scores represent stronger perceived responsiveness from one's partner. The Cronbach's α coefficient in the current sample reached 0.983.

2.2.4 Intimate Relationship Satisfaction

The Relationship Assessment Scale (RAS) measured romantic relationship satisfaction with 7 items [20]. Responses were rated on a 5-point Likert scale (1=completely inconsistent, 5=completely consistent), with Items 4 and 7 reverse-coded. Higher total scores correspond to superior relationship satisfaction. The Cronbach's α of the scale in this study was 0.889.

2.3 Data Analysis

SPSS 27.0 software was employed to conduct descriptive statistics and bivariate correlation analyses. The PROCESS 5.0 macro for SPSS was further applied to test the hypothesized moderated mediation model.

3. RESULTS

3.1 Common Method Bias Test

Harman's single-factor test was performed to detect potential common method bias across all measured items. Exploratory factor analysis extracted seven factors with eigenvalues greater than 1, and the first unrotated factor accounted for 36.02% of total variance, falling below the critical cutoff of 40%. This result indicates no severe common method bias in the present dataset.

3.2 Descriptive Statistics and Correlation Analysis

Bivariate correlation results revealed consistent patterns as predicted: Anxious attachment was significantly positively correlated with intolerance of uncertainty, and significantly negatively correlated with perceived partner responsiveness and intimate relationship satisfaction. Intolerance of uncertainty showed significant negative correlations with perceived partner responsiveness and relationship satisfaction. Perceived partner responsiveness exhibited a strong positive association with intimate relationship satisfaction (Table 1).

Table 1. Descriptive Statistics and Bivariate Correlations (N = 411)

Variables	$M \pm SD$	1	2	3	4
1 Anxious Attachment	3.85 ± 1.19	–			
2 Perceived Partner Responsiveness	5.10 ± 1.53	-0.27***	–		
3 Intolerance of Uncertainty	3.04 ± 0.82	0.62***	-0.44***	–	
4 Intimate Relationship Satisfaction	3.86 ± 0.76	-0.39***	0.67***	-0.51***	–

Note. $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$. The same notation applies to all subsequent tables.

3.3 Moderated Mediation Model Testing

All variables were standardized prior to model testing. Model 4 of the PROCESS macro was first run to examine the mediating effect of intolerance of uncertainty. As shown in Table 2, anxious attachment significantly and positively predicted intolerance of uncertainty (β=0.62, t=15.87, p<0.001), and significantly negatively predicted intimate relationship satisfaction (β=-0.39, t=-8.52, p<0.001). After entering intolerance of uncertainty into the regression equation, the direct predictive effect of anxious attachment on relationship satisfaction remained statistically significant (β=-0.12, t=-2.27, p<0.05), while intolerance of uncertainty exerted a significant negative predictive effect on satisfaction (β=-0.43, t=-7.98, p<0.001).

Bootstrap mediation tests (Table 3) confirmed a significant indirect pathway through intolerance of uncertainty, with an indirect effect value of -0.27 (BootSE = 0.04, 95% CI [-0.35, -0.19]), accounting for 76.34% of the total effect. These results demonstrate that intolerance of uncertainty partially mediates the association between anxious attachment and intimate relationship satisfaction.

Next, PROCESS Model 7 was adopted to test the full moderated mediation framework. The interaction term of anxious attachment and perceived partner responsiveness significantly predicted intolerance of uncertainty (β=-0.18, t=-4.96, p<0.001), confirming the moderating role of perceived partner responsiveness on the link between anxious attachment and intolerance of uncertainty (Table 3). Simple slope analyses (Fig.1) illustrated that the positive predictive effect of anxious attachment on intolerance of uncertainty was stronger under low perceived partner responsiveness (β=0.55, t=12.49, p<0.001), yet substantially weaker under high perceived partner responsiveness (β=0.28, t=9.22, p<0.001). This pattern indicates that elevated perceived partner responsiveness attenuates the positive association between anxious attachment and intolerance of uncertainty.

Table 2. Test of the Moderated Mediation Model Linking Anxious Attachment to Intimate Relationship Satisfaction

Predictors	**Equation 1 (Criterion: Intolerance of Uncertainty)**		**Equation 2 (Criterion: Relationship Satisfaction)**		**Equation 3 (Criterion: Relationship Satisfaction)**		**Equation 4 (Criterion: Intolerance of Uncertainty)**	
	β	t	β	t	β	t	β	t
Anxious Attachment	0.62***	15.87	-0.39***	-8.52	-0.12*	-2.27	0.56***	15.26
Intolerance of Uncertainty	–	–	–	–	-0.43***	-7.98	–	–
Perceived	–	–	–	–	–	–	-0.26***	-7.00

Partner Responsiveness								
Anxious Attachment × Perceived Partner Responsiveness	–	–	–	–	–	–	-0.18***	-4.96
R^2	0.38		0.15		0.27		0.49	
F	251.70***		72.51***		73.62***		131.58***	

Note. All coefficients are standardized. Equations 1–3 derive from PROCESS Model 4; Equation 4 derives from PROCESS Model 7.

Table 3. Mediation Effect Decomposition of Intolerance of Uncertainty

Effect Type	Path	Effect Value	BootSE	95% CI Lower	95% CI Upper	Effect Proportion
Direct Effect	Anxious Attachment → Intimate Relationship Satisfaction	-0.12	0.05	-0.21	-0.02	23.66%
Indirect Effect	Anxious Attachment → Intolerance of Uncertainty → Intimate Relationship Satisfaction	-0.27	0.04	-0.35	-0.19	76.34%
Total Effect	Anxious Attachment → Intimate Relationship Satisfaction	-0.39	—	—	—	—

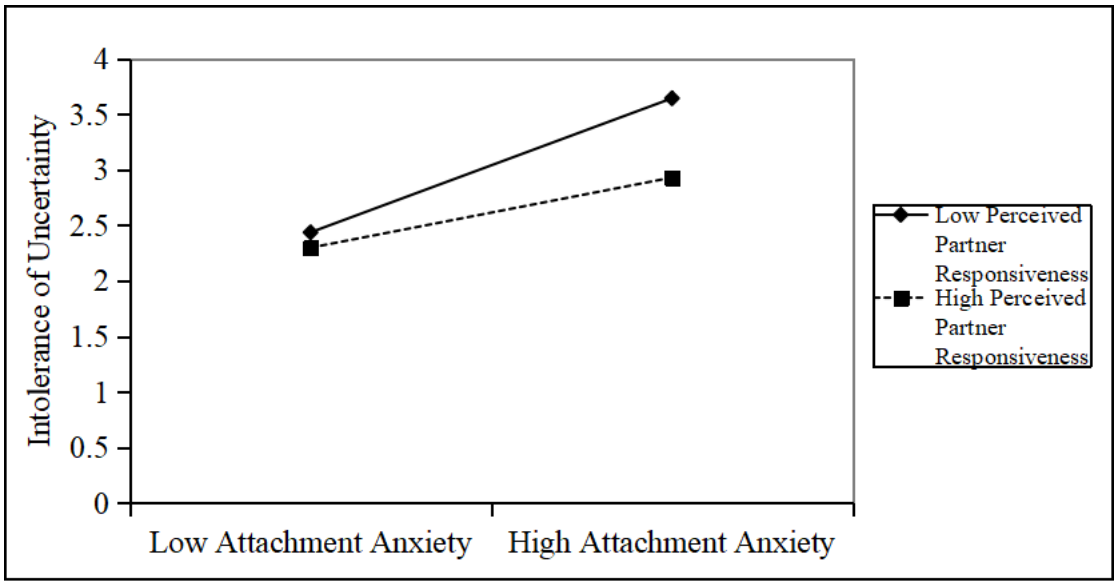

Fig. 1. The Moderating Effect of Perceived Partner Responsiveness on the Association Between Anxious Attachment and Intolerance of Uncertainty

4. DISCUSSION

4.1 The Direct Association Between Anxious Attachment and Intimate Relationship Satisfaction

Consistent with prior meta-analytic evidence synthesizing 132 independent studies, the current study verified that anxious attachment significantly negatively predicts intimate relationship satisfaction [7]. Individuals high in attachment anxiety are plagued by chronic fear of abandonment and hypervigilance toward partners' behavioral cues, a state that predisposes them to interpret ambiguous relational signals as rejection [21]. A recent narrative review by Pal & Varshney further elaborates that anxious attachment manifests as excessive jealousy, heightened rejection sensitivity, and oscillating idealization and devaluation of romantic partners, all of which jointly erode relational stability and satisfaction [22]. The present results replicate this robust negative correlation within a Chinese cultural sample, offering cross-cultural empirical support for core propositions of attachment theory regarding adult romantic functioning [5].

4.2 The Partial Mediating Role of Intolerance of Uncertainty

This study confirmed that intolerance of uncertainty partially mediates the link between anxious attachment and romantic satisfaction: anxious attachment exacerbates adverse reactions to relational ambiguity, which in turn diminishes satisfaction. This finding aligns with previous cross-sectional research of 880 undergraduates, which established that intolerance of uncertainty transmits the positive association between anxious attachment and clinical anxiety symptoms [23]. From an attachment framework, the internal working models of anxiously attached individuals incorporate self-worth doubts and distrust of partners' reliability. This cognitive schema amplifies negative appraisal of ambiguous romantic scenarios, elevating intolerance of uncertainty. Heightened

aversion to unknown relational outcomes undermines fundamental feelings of security, a foundational prerequisite for satisfying intimate bonds [10].

Notably, the partial mediation pattern implies additional unexamined pathways connecting anxious attachment to relationship satisfaction. A meta-analysis conducted by Li & Chan documented that anxious attachment demonstrates stronger positive associations with relational conflict compared to avoidant attachment [24]. Beyond the cognitive pathway identified here (intolerance of uncertainty), anxious attachment may also degrade satisfaction through behavioral channels such as frequent conflict escalation, representing a promising direction for future inquiry.

4.3 The Moderating Buffer Effect of Perceived Partner Responsiveness

Perceived partner responsiveness significantly moderated the first stage of the indirect mediation pathway, functioning as a protective buffer against the detrimental sequential effects of anxious attachment. Specifically, high perceived partner responsiveness weakens the positive association between anxious attachment and intolerance of uncertainty, thereby offsetting downstream declines in relationship satisfaction. These results corroborate a 21-day daily diary longitudinal study of 121 romantic couples by Raposo & Muise, which observed that perceived partner responsiveness normalized security, trust and satisfaction levels among highly anxiously attached participants to match those of low-anxiety individuals [15].

In accordance with the interpersonal intimacy process model, perceived validation, understanding and care from partners reinforce internal security and trust, correcting the negatively biased interpretations of ambiguous situations characteristic of anxious attachment [14]. Recent meta-analytic work synthesizing three daily-diary datasets across 390 dyads further unpacked this buffering mechanism: familiar, consistent shared activities (rather than novel, exciting experiences) fully restore satisfaction among anxiously attached individuals [24]. This pattern reveals that perceived partner responsiveness mitigates intolerance of uncertainty primarily by supplying relational predictability, stability and security—psychological resources deficient in people with elevated intolerance of uncertainty. In short, perceived partner responsiveness acts as an emotional safety buffer: even when anxious attachment is pronounced, consistent perceived support from partners reduces catastrophic interpretations of relational ambiguity and sustains favorable romantic satisfaction.

5. CONCLUSION

This study constructed a moderated mediation model to clarify how anxious attachment shapes intimate relationship satisfaction among Chinese young adults, and three core findings emerged: anxious attachment directly and negatively predicts intimate relationship satisfaction, intolerance of uncertainty partially mediates the link between anxious attachment and relationship satisfaction and accounts for most of the total effect, and perceived partner responsiveness moderates the pathway from anxious attachment to intolerance of uncertainty,

acting as a protective buffer that weakens the negative cascading effects of attachment anxiety on romantic relationship quality.

5.1 Theoretical Implications

First, this research expands cross-cultural evidence for attachment theory by validating its core predictions within Chinese intimate relationships, enriching the cultural generalizability of attachment dynamics [5]. Second, the study integrates cognitive vulnerability (intolerance of uncertainty) as a mediating mechanism, revealing the cognitive pathway through which attachment anxiety undermines romantic functioning beyond well-documented behavioral and affective channels. Third, by incorporating perceived partner responsiveness as a relational contextual moderator, the research reconciles trait vulnerability (anxious attachment) with dyadic interpersonal processes, advancing the interpersonal process model of intimacy [14].

5.2 Practical Implications

The findings deliver actionable guidance for romantic partners, couple counselors and relationship intervention practitioners. For individuals with high anxious attachment, cultivating tolerance of relational uncertainty through cognitive reframing may reduce downstream dissatisfaction. For partners, consistent demonstration of responsiveness—including active listening, emotional validation and attentive care—can effectively buffer the negative cognitive biases of anxiously attached partners. Clinical practitioners may design targeted dyadic interventions centered on enhancing mutual perceived responsiveness to alleviate insecurity and improve overall relationship quality for attachment-anxious clients.

5.3 Limitations and Future Directions

Several limitations of this study warrant acknowledgment. First, the cross-sectional questionnaire design prohibits causal inferences; longitudinal or experimental designs are required to establish directional effects among variables. Second, the sample primarily consists of young adults aged 18–35 from Guangzhou, limiting generalizability to middle-aged, elderly, long-married or rural populations. Third, only self-report data were collected, lacking partner-reported dyadic perspectives to reduce mono-source bias.

Future research may adopt longitudinal daily diary or experimental paradigms to verify causal pathways, recruit more demographically diverse samples, and incorporate dyadic data from both partners. Additionally, multiple parallel mediators (e.g., relationship conflict, emotion regulation) could be integrated into the model to comprehensively map the multifaceted mechanisms linking anxious attachment to romantic satisfaction.

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