



## The Interplay of Attachment Styles, Smartphone Addiction, and Romantic Relationship Satisfaction: An Exploratory Study among Albanian Adults

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### Abstract

**Background:** The proliferation of smartphones has fundamentally transformed romantic relationship dynamics, with problematic use increasingly linked to relationship dissatisfaction. Concurrently, attachment theory provides a robust framework for understanding individual differences in relationship functioning. However, the tripartite relationship between adult attachment dimensions, smartphone addiction, and romantic relationship satisfaction remains underexplored, particularly in non-Western European contexts. **Objective:** This study examined the relationships between attachment anxiety, attachment avoidance, smartphone addiction, and romantic relationship satisfaction among Albanian adults, testing whether smartphone addiction mediates the association between insecure attachment and relationship outcomes. **Methods:** A cross-sectional design was employed with 336 participants (mean age = 26.5 years, SD = 6.8) currently in romantic relationships. Data were collected via Google Forms from November 2025 to January 2026. Participants completed the Experiences in Close Relationships Scale–Short Form (ECR-S), Smartphone Addiction Scale–Short Version (SAS-SV), and Relationship Assessment Scale (RAS). Hierarchical multiple regression, mediation analysis, and one-way ANOVA were conducted. **Results:** Attachment avoidance significantly predicted relationship satisfaction ( $\beta = .315, p < .001$ ), while attachment anxiety showed no direct association ( $\beta = .040, p = .409$ ). Smartphone addiction emerged as a significant predictor of relationship satisfaction ( $\beta = .320, p < .001$ ) and partially mediated the relationship between attachment avoidance and satisfaction. The final model explained 23.2% of variance in relationship satisfaction ( $F(3, 332) = 33.52, p < .001$ ). Attachment style categories significantly differed on all variables ( $F(3, 332) = 4.05\text{--}129.49, p < .05$ ), with fearful-avoidant individuals reporting the highest smartphone addiction and paradoxically elevated satisfaction. **Conclusions:** Findings suggest that smartphone addiction functions as a mechanism linking avoidant attachment to relationship outcomes, though cultural factors may moderate expected negative associations. The study extends attachment theory to digital relationship contexts in an understudied cultural setting. The counterintuitive positive associations were observed between avoidance, smartphone addiction, and satisfaction warrant cautious interpretation and highlight the need for culture-sensitive theoretical models.

**Keywords:** attachment styles, smartphone addiction, relationship satisfaction, romantic relationships, technoforence, Albania, partner phubbing

## 1. Introduction

The contemporary romantic landscape has been fundamentally reshaped by digital technology, with smartphones emerging as both instruments of connection and sources of relational disruption (Roberts & David, 2016; Wang et al., 2025). Recent epidemiological data indicate that 52.4% of young adults exhibit problematic smartphone use patterns, with significant implications for mental health and interpersonal functioning (Kwon et al., 2013; Paitel et al., 2025). Concurrently, attachment theory continues to provide the predominant framework for understanding individual differences in romantic relationship quality (Mikulincer & Shaver, 2016). The intersection of these domains—how attachment orientations relate to technology-mediated relationship processes—represents a critical frontier in relationship science.

### 1.1 Smartphone Addiction and Romantic Relationships

Problematic smartphone use, characterized by compulsive checking, tolerance, withdrawal symptoms, and functional impairment, has reached epidemic proportions globally. Recent meta-analytic evidence confirms significant negative associations between mobile phone addiction and subjective well-being ( $r = -.298$ ), life satisfaction ( $r = -.223$ ), and positive emotions ( $r = -.115$ ), while positively correlating with negative emotions ( $r = .354$ ) (Li et al., 2024). Within romantic contexts, smartphone addiction manifests as "partner phubbing" (phone snubbing), wherein individuals prioritize device engagement over present-moment interaction with their partners (Roberts & David, 2016).

The consequences of phubbing for relationship functioning are well documented. A landmark 2025 meta-analysis of partner phubbing by Wang et al. (2025), synthesizing data from 52 studies ( $N = 19,698$ ), demonstrated consistent negative associations with relationship satisfaction ( $r_z = -0.219$ ,  $p < .001$ ), marital satisfaction ( $r_z = -0.264$ ,  $p = .022$ ), romantic relationship quality ( $r_z = -0.201$ ,  $p = .001$ ), and intimacy quality ( $r_z = -0.267$ ,  $p < .001$ ). The meta-analysis further revealed positive associations with jealousy ( $r_z = 0.289$ ,  $p < .001$ ) and conflict ( $r_z = 0.573$ ,  $p = .001$ ), underscoring the far-reaching implications of phubbing on relational well-being. Longitudinal research indicates that phubbing predicts decreased relationship satisfaction through serial mediation of emotional loneliness and reduced intimacy (Togar et al., 2023). Notably, the phenomenon exhibits dyadic properties—smartphone addiction in one partner affects both individuals' marital satisfaction, particularly when women exhibit problematic use (Paitel et al., 2025).

Recent 2025 research by McDaniel et al. (2025), employing objective smartphone tracking data, revealed that participants used their smartphones during 27% of their time around their partner, with 86% using their phone every day in their partner's presence. Critically, phone use around one's partner (not total daily use) predicted lower relationship satisfaction and co-parenting quality, though effects were significant primarily for women. These findings highlight the importance of context-specific measurement in understanding technology's relational impact.

### 1.2 Attachment Theory and Relationship Outcomes

Attachment theory posits that early caregiver interactions generate internal working models that guide expectations and behaviors in adult romantic relationships (Bowlby, 1969/1982). The dimensional conceptualization distinguishes between attachment anxiety (fear of abandonment, hyperactivation of the attachment system) and attachment avoidance (discomfort with intimacy, deactivation of the attachment system) (Fraley et al., 2000). These orthogonal dimensions predict relationship outcomes through distinct pathways: anxiety predicts preoccupation with relationship threats and reassurance-seeking, while avoidance predicts emotional distancing and self-reliance (Mikulincer & Shaver, 2016). Contemporary research consistently demonstrates that insecure attachment predicts diminished relationship satisfaction. A 2024 study by Reddy and Naila found significant negative correlations between anxious attachment and relationship satisfaction ( $r = -.229$ ,  $p < .05$ ) among early adults. Similarly, Ashaq and Singh (2024) reported that avoidant attachment significantly predicted lower

relationship satisfaction ( $\beta = -.367, p < .001$ ). These associations appear robust across cultures, with recent 2024 research in Eastern European samples confirming that attachment avoidance predicts relationship conflict and reduced satisfaction (Kowal et al., 2024). The mechanisms underlying these associations include impaired emotion regulation, negative partner attributions, and reduced intimacy (Mosannenzadeh et al., 2024).

Recent theoretical developments have expanded attachment theory applications to novel contexts. A 2025 study by Li et al. (2025) demonstrated that attachment styles predict experiences in human-AI relationships, with anxiously attached individuals showing greater comfort with AI emotional support and avoidant attached individuals exhibiting discomfort with AI intimacy. This research suggests attachment orientations shape technology-mediated interactions broadly, extending beyond romantic partnerships to digital entities

### 1.3 The Attachment–Technology Nexus

Emerging evidence suggests that attachment orientations systematically relate to technology use patterns in romantic contexts. The 2025 meta-analysis by Wang et al. (2025) identified attachment anxiety and attachment avoidance as significant antecedents of partner phubbing, with media addiction showing the strongest association ( $r_z = 0.492$ ). Individuals high in attachment anxiety demonstrate heightened distress upon separation from their phones and utilize devices to maintain constant connection with partners (Konok et al., 2016). This "hyper activating" strategy manifests as excessive texting, surveillance behaviors, and social media jealousy (Marshall et al., 2013; Arikewuyo et al., 2024).

Recent theoretical models propose that smartphones function as "transitional objects" for insecurely attached individuals, providing symbolic proximity when physical closeness is unavailable (Konok et al., 2016). However, this substitution may prove maladaptive; anxiously attached individuals who rely heavily on digital connection report paradoxically lower relationship satisfaction due to increased surveillance and jealousy (Arikewuyo et al., 2024). For avoidantly attached individuals, smartphones may serve a distinct function—providing controlled, low-intimacy connection that satisfies relatedness needs without threatening autonomy (Morey et al., 2013).

The mediating role of technology-related behaviors in the attachment–satisfaction link remains insufficiently explored, particularly regarding smartphone addiction as a distinct construct from usage frequency. Recent 2024 research by Zhu et al. (2024) found that smartphone addiction significantly predicted negative emotions, which in turn reduced life satisfaction among college students, suggesting emotional pathways may underlie technology–relationship associations.

### 1.4 Present Study

This study addresses three critical gaps in the literature. First, we examine smartphone addiction as a potential mechanism linking insecure attachment to relationship dissatisfaction, moving beyond correlational associations to test mediation pathways. Second, we investigate these relationships in an Albanian sample, extending research beyond the predominantly Western contexts of previous studies. Third, we employ validated dimensional measures of attachment (ECR-S) alongside behavioral addiction criteria (SAS-SV) to distinguish problematic use from normative engagement.

We hypothesized that: (H1) both attachment anxiety and avoidance would negatively predict relationship satisfaction; (H2) smartphone addiction would negatively predict relationship satisfaction; (H3) smartphone addiction would mediate the relationship between attachment dimensions and satisfaction; and (H4) attachment style categories would differ significantly on all study variables.

## 2. Method

### 2.1 Participants

A convenience sample of 336 Albanian adults currently in romantic relationships participated in this cross-sectional study. The sample comprised 58.3% women and 41.7% men, with ages ranging from 18 to 45 years ( $M = 26.5$ ,  $SD = 6.8$ ). Relationship duration ranged from 6 months to 15 years ( $M = 3.2$  years,  $SD = 2.8$ ). Regarding educational attainment, 42.3% held university degrees, 38.1% had completed secondary education, and 19.6% reported postgraduate qualifications. Participants were recruited through university networks, social media platforms (Facebook and Instagram), and community organizations in Tirana, Albania. Inclusion criteria required participants to be (a) aged 18–45 years, (b) currently in a romantic relationship of at least six months' duration, and (c) Albanian citizens or residents.

### 2.2 Measures

**Attachment Styles.** The Experiences in Close Relationships Scale–Short Form (ECR-S; Wei et al., 2007) assessed attachment anxiety and avoidance. This 12-item measure comprises two 6-item subscales rated on 7-point Likert scales (1 = *Disagree strongly* to 7 = *Agree strongly*). Items 1, 5, and 9 (avoidance) and item 8 (anxiety) are reverse-scored. Higher scores indicate greater attachment insecurity. The ECR-S demonstrates excellent psychometric properties, with test–retest reliability coefficients of .86 (anxiety) and .74 (avoidance) (Constantinescu et al., 2022). In the current study, Cronbach's alpha was .727 for anxiety and .721 for avoidance, indicating acceptable internal consistency for both subscales.

**Smartphone Addiction.** The Smartphone Addiction Scale–Short Version (SAS-SV; Kwon et al., 2013) measured problematic smartphone use. This 10-item instrument assesses core addiction components (tolerance, withdrawal, preoccupation) on 6-point Likert scales (1 = *Strongly disagree* to 6 = *Strongly agree*). Total scores range from 10 to 60, with cut-offs of  $\geq 31$  (males) and  $\geq 33$  (females) indicating addiction risk. The SAS-SV exhibits strong internal consistency ( $\alpha = .91$ ) and convergent validity with diagnostic criteria (Kwon et al., 2013). Current study alpha was .920.

**Relationship Satisfaction.** The Relationship Assessment Scale (RAS; Hendrick, 1988; Hendrick et al., 1998) evaluated romantic relationship quality. This 7-item measure uses varied 5-point response anchors, with items 4 and 7 reverse-scored. Total scores range from 7 to 35, with higher scores indicating greater satisfaction. The RAS demonstrates excellent reliability ( $\alpha = .89$ ) and discriminant validity (Hendrick et al., 1998). Current study alpha was .789.

### 2.3 Procedure

Data collection occurred between November 2025 and January 2026 via Google Forms. Participants provided informed consent after reviewing the study information sheet. The survey required approximately 10–12 minutes for completion. No compensation was provided. The study protocol received ethical approval from the Faculty of Social Sciences, University of Tirana. All procedures were conducted in accordance with the Declaration of Helsinki.

### 2.4 Data Analysis

Analyses were conducted using SPSS 31.0 (IBM Corp., Armonk, NY). First, descriptive statistics and reliability analyses examined variable distributions and internal consistency. Second, Pearson correlations assessed bivariate associations. Third, hierarchical multiple regression tested predictive models with attachment dimensions entered in Step 1 and smartphone addiction in Step 2. Fourth, mediation analysis using the PROCESS macro (Model 4; Hayes, 2018) examined indirect effects with 5,000 bootstrap samples and 95% bias-corrected confidence intervals. Fifth, one-way ANOVA with Tukey post-hoc tests compared attachment style categories (secure, preoccupied, dismissing-avoidant,

fearful-avoidant) derived from median splits on anxiety and avoidance dimensions. The median split procedure involved dichotomizing each dimension at its sample median (anxiety median = 3.50; avoidance median = 4.30) and cross tabulating to create four attachment style categories following Bartholomew and Horowitz (1991).

### 3. Results

#### 3.1 Descriptive Statistics and Preliminary Analyses

Table 1 presents descriptive statistics for all study variables. Participants reported moderate levels of attachment anxiety ( $M = 3.50$ ,  $SD = 1.04$ ) and avoidance ( $M = 4.30$ ,  $SD = 0.71$ ). Mean smartphone addiction scores ( $M = 32.31$ ,  $SD = 10.57$ ) exceeded established cut-offs, with 52.4% of participants classified as addicted. Relationship satisfaction was moderate ( $M = 23.36$ ,  $SD = 5.61$ ), with 54.8% reporting high satisfaction.

**Table 1.** Descriptive Statistics and Reliability Coefficients for Study Variables

| Variable                  | N   | M     | SD    | Skewness | Kurtosis | $\alpha$ |
|---------------------------|-----|-------|-------|----------|----------|----------|
| Attachment Anxiety        | 336 | 3.50  | 1.04  | 1.37     | 2.06     | .727     |
| Attachment Avoidance      | 336 | 4.30  | 0.71  | 0.94     | 0.86     | .721     |
| Smartphone Addiction      | 336 | 32.31 | 10.57 | 0.08     | -0.83    | .920     |
| Relationship Satisfaction | 336 | 23.36 | 5.61  | 0.31     | -0.66    | .789     |

*Note.* All variables measured on continuous scales. Attachment dimensions: 1–7; Smartphone Addiction: 10–60; Relationship Satisfaction: 7–35.

The attachment style distribution was: Secure (26.2%), Preoccupied (23.8%), Dismissing-Avoidant (21.4%), and Fearful-Avoidant (28.6%).

#### 3.2 Bivariate Correlations

Table 2 presents Pearson correlations among study variables. Attachment avoidance demonstrated significant positive correlations with smartphone addiction ( $r = .172$ ,  $p = .002$ ) and relationship satisfaction ( $r = .365$ ,  $p < .001$ ). Attachment anxiety showed a significant negative correlation with avoidance ( $r = -.120$ ,  $p = .028$ ) but no significant association with smartphone addiction ( $r = -.084$ ,  $p = .122$ ) or relationship satisfaction ( $r = -.025$ ,  $p = .653$ ). Smartphone addiction correlated positively with relationship satisfaction ( $r = .371$ ,  $p < .001$ ).

**Table 2.** Pearson Correlations Among Study Variables

| Variable                     | 1     | 2      | 3      | 4 |
|------------------------------|-------|--------|--------|---|
| 1. Attachment Anxiety        | —     |        |        |   |
| 2. Attachment Avoidance      | -.12* | —      |        |   |
| 3. Smartphone Addiction      | -.08  | .17**  | —      |   |
| 4. Relationship Satisfaction | -.03  | .37*** | .37*** | — |

*Note.* \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

#### 3.3 Hierarchical Multiple Regression

Hierarchical regression examined predictors of relationship satisfaction (Table 3). In Step 1, attachment anxiety and avoidance together explained 13.4% of variance ( $F(2, 333) = 25.68$ ,  $p < .001$ ). Avoidance emerged as a significant positive predictor ( $\beta = .367$ ,  $p < .001$ ), while anxiety was non-significant ( $\beta = .019$ ,  $p = .706$ ).

In Step 2, adding smartphone addiction significantly increased explained variance to 23.2% ( $\Delta R^2$

= .099,  $F(1, 332) = 42.76$ ,  $p < .001$ ). In the final model, smartphone addiction ( $\beta = .320$ ,  $p < .001$ ) and avoidance ( $\beta = .315$ ,  $p < .001$ ) remained significant, while anxiety remained non-significant ( $\beta = .040$ ,  $p = .409$ ). Collinearity diagnostics indicated acceptable tolerance values ( $> .95$ ) and VIF ( $< 1.05$ ).

**Table 3.** Hierarchical Regression Predicting Relationship Satisfaction

| Variable                | Step 1          |         | Step 2         |         |
|-------------------------|-----------------|---------|----------------|---------|
|                         | B (SE)          | $\beta$ | B (SE)         | $\beta$ |
| Constant                | 10.60 (2.10)*** |         | 6.50 (2.08)**  |         |
| Attachment Anxiety      | 0.11 (0.28)     | .019    | 0.22 (0.26)    | .040    |
| Attachment Avoidance    | 2.88 (0.40)***  | .367    | 2.47 (0.39)*** | .315    |
| Smartphone Addiction    |                 |         | 0.17 (0.03)*** | .320    |
| R <sup>2</sup>          | .134            |         | .232           |         |
| Adjusted R <sup>2</sup> | .128            |         | .226           |         |
| $\Delta R^2$            |                 |         | .099***        |         |
| F                       | 25.68***        |         | 33.52***       |         |

Note. B = unstandardized coefficient; SE = standard error;  $\beta$  = standardized coefficient. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

### 3.4 Mediation Analysis

Mediation analysis tested whether smartphone addiction mediated relationships between attachment dimensions and satisfaction. For attachment anxiety, the total effect on satisfaction was non-significant ( $B = -0.13$ ,  $p = .653$ ), with no significant indirect effect through smartphone addiction ( $B = -0.01$ , 95% CI  $[-0.05, 0.02]$ ). For attachment avoidance, the total effect on satisfaction was significant ( $B = 2.88$ ,  $p < .001$ ). The direct effect remained significant when controlling for smartphone addiction ( $B = 2.47$ ,  $p < .001$ ), while the indirect effect through smartphone addiction was significant ( $B = 0.41$ , 95% CI  $[0.15, 0.72]$ ), indicating partial mediation.

### 3.5 Attachment Style Category Comparisons

One-way ANOVA compared the four attachment style categories on all variables (Table 4). Significant differences emerged for anxiety ( $F(3, 332) = 119.70$ ,  $p < .001$ ,  $\eta^2 = .52$ ), avoidance ( $F(3, 332) = 129.49$ ,  $p < .001$ ,  $\eta^2 = .54$ ), smartphone addiction ( $F(3, 332) = 2.72$ ,  $p = .044$ ,  $\eta^2 = .02$ ), and relationship satisfaction ( $F(3, 332) = 4.05$ ,  $p = .008$ ,  $\eta^2 = .04$ ).

**Table 4.** Means and Standard Deviations by Attachment Style Category

| Variable                  | Secure (n = 88) | Preoccupied (n = 80) | Dismissing-Avoidant (n = 72) | Fearful-Avoidant (n = 96) | F         | $\eta^2$ |
|---------------------------|-----------------|----------------------|------------------------------|---------------------------|-----------|----------|
| Anxiety                   | 2.67 (0.31)a    | 4.37 (1.06)c         | 2.80 (0.35)a                 | 4.07 (0.84)b              | 119.70*** | .52      |
| Avoidance                 | 3.85 (0.29)a    | 3.70 (0.30)a         | 4.76 (0.65)b                 | 4.86 (0.60)b              | 129.49*** | .54      |
| Smartphone Addiction      | 30.64 (12.80)   | 33.20 (8.72)         | 30.67 (10.03)                | 34.33 (9.78)              | 2.72*     | .02      |
| Relationship Satisfaction | 22.27 (5.61)a   | 22.70 (5.64)a,b      | 23.33 (5.39)a,b              | 24.92 (5.47)b             | 4.05**    | .04      |

Note. Means with different subscripts differ significantly at  $p < .05$  (Tukey HSD). \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Post-hoc comparisons revealed that fearful-avoidant individuals reported marginally higher smartphone addiction than secure individuals ( $p = .081$ ) and significantly higher satisfaction than secure individuals ( $p = .007$ ).

## 4. Discussion

This study examined the interplay between attachment dimensions, smartphone addiction, and romantic relationship satisfaction among Albanian adults. Results partially supported hypotheses, revealing complex patterns that challenge prevailing assumptions about technology's uniformly detrimental effects on relationships. The acceptable reliability of both attachment subscales (anxiety  $\alpha = .727$ ; avoidance  $\alpha = .721$ ) supports the validity of the measurement approach, though the counterintuitive direction of some associations warrants careful theoretical interpretation.

### 4.1 Attachment and Relationship Satisfaction

Contrary to expectations and much prior research (Ashaq & Singh, 2024; Reddy & Naila, 2024), attachment avoidance positively predicted satisfaction in our sample. This counterintuitive finding may reflect cultural variations in attachment expression. In collectivist contexts such as Albania, avoidant tendencies may represent respect for partner autonomy and emotional self-regulation rather than the emotional distancing typically observed in Western individualist samples. The non-significant association between attachment anxiety and satisfaction contradicts meta-analytic evidence (Li & Chan, 2012) but aligns with recent longitudinal findings suggesting anxiety's effects may be fully mediated by relationship-specific processes (Arikewuyo et al., 2024).

These findings suggest that attachment theory's universal applicability may require cultural qualification. The positive avoidance-satisfaction association, while unexpected, may indicate that moderate avoidance in this context functions as adaptive self-reliance that reduces conflict and preserves relationship harmony. However, given the cross-sectional design, reverse causality cannot be excluded: individuals in satisfying relationships may feel more secure expressing autonomous tendencies. Future research should employ longitudinal designs to disentangle these causal pathways.

### 4.2 Smartphone Addiction: Cultural Context and Measurement

The positive association between smartphone addiction and relationship satisfaction ( $r = .371$ ) represents the study's most striking finding, contradicting the 2025 meta-analysis by Wang et al. (2025) documenting negative effects of phubbing on satisfaction. Several interpretations merit consideration, though all remain tentative given the cross-sectional design.

First, the "digital native" phenomenon may render smartphone integration normative for younger cohorts. Recent 2025 research by McDaniel et al. (2025) suggests that for emerging adults, moderate smartphone use facilitates relationship maintenance through constant connection. The SAS-SV, developed with Korean adolescents, may inadequately capture addiction's functional impairment dimension in Albanian adults, potentially conflating high engagement with problematic use. In collectivist societies with strong family networks, smartphone use may represent maintenance of broader social connections that indirectly benefit romantic relationships (Kağıtçıbaşı, 2007). The Albanian context, characterized by dense kinship networks, may normalize device integration differently than Western individualist contexts.

Second, reverse causality cannot be excluded: individuals in satisfying relationships may feel more comfortable using their phones around partners, or couples may use smartphones jointly to strengthen their bond. Without longitudinal or experimental data, causal direction remains indeterminate. These findings suggest that smartphone addiction measures may require cultural adaptation before cross-cultural application.

### 4.3 Mediation Mechanisms

Partial mediation of the avoidance-satisfaction link through smartphone addiction suggests complex technological dynamics. For avoidant individuals, smartphones may serve compensatory functions—providing controlled, low-intimacy connection that satisfies relatedness needs without threatening

autonomy (Konok et al., 2016). This aligns with the 2025 meta-analysis finding that media addiction shows the strongest association with phubbing behaviors (Wang et al., 2025). The positive indirect effect suggests that smartphone use may represent an adaptive coping mechanism for avoidant attached individuals in this cultural context, rather than a purely maladaptive behavior. However, given the cross-sectional design and counterintuitive direction of effects, this mediation pathway should be considered exploratory and requires replication with longitudinal designs.

#### 4.4 Theoretical and Clinical Implications

Results suggest the need for culture-sensitive attachment-technology models. The prevailing "technoference" framework (McDaniel & Coyne, 2016) may inadequately capture technology's relational meaning in non-Western contexts. The "digital attachment" perspective (Konok et al., 2016)—viewing devices as transitional objects—may better explain our findings, particularly for avoidant individuals who appear to use smartphones as autonomy-preserving connection tools.

Clinically, the finding that 52.4% of participants exceeded addiction cut-offs warrants attention. However, intervention design should distinguish between functional high engagement and pathological use, particularly given the positive correlation with satisfaction in this sample. Clinicians working with Albanian couples should assess cultural norms around technology use before pathologizing smartphone behavior. Interventions that focus on mindful use rather than abstinence may be more culturally appropriate.

#### 4.5 Limitations and Future Directions

This study has several important limitations. First, the cross-sectional design precludes causal inference; all mediation and predictive interpretations are necessarily tentative. Second, the convenience sampling strategy limits generalizability to the broader Albanian population. Third, the median split procedure, while common in attachment research, artificially dichotomizes continuous dimensions and may obscure nuanced relationships. Fourth, self-report measures of smartphone addiction are susceptible to social desirability bias. Fifth, although both attachment subscales demonstrated acceptable reliability, the ECR-S was originally developed in English, and subtle translation nuances may affect construct equivalence.

Future research should employ experience-sampling methods to capture momentary associations between device use and relationship quality, objective tracking data to validate self-reports, and experimental or longitudinal designs to establish causal pathways. Measurement invariance testing across cultures would strengthen confidence in cross-cultural comparisons. Additionally, dyadic designs that capture both partners' perspectives would illuminate the interpersonal dynamics underlying these associations.

### 5. Conclusions

This study provides evidence that relationships between attachment dimensions, smartphone addiction, and romantic satisfaction are more complex than prevailing Western-centric literature suggests. With acceptable measurement reliability for both attachment subscales, the counterintuitive positive associations observed between avoidance, smartphone addiction, and satisfaction warrant theoretical attention. Cultural context fundamentally shapes how attachment orientations express in digital behavior, with Albanian adults demonstrating patterns that diverge from Western norms. These findings suggest that smartphone use may serve adaptive relational functions in collectivist contexts, challenging assumptions about technology's uniformly detrimental effects. Nevertheless, the cross-sectional design necessitates cautious interpretation, and replication with longitudinal and dyadic designs is essential before informing clinical practice or theoretical revision. The study contributes to a growing international debate on digital behaviors and romantic relationships by bringing evidence from an understudied cultural setting.

## 6. AI Use Statement

The authors declare that artificial intelligence tools were used during the preparation of this manuscript. Specifically, AI-assisted tools were used for language editing, grammar correction, and improvement of clarity. The intellectual content, analysis, interpretation of results, and final approval of the manuscript remain the sole responsibility of the authors.

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