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Objectification and exchange orientation as results of attachment insecurity. Exploration of the relation and its psychological mechanisms

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Streszczenie

Osoby z niepewnym stylem przywiązania doświadczają nieadaptacyjnych konsekwencji psychologicznych i społecznych. Niewiele jednak wiadomo o mechanizmach kompensacyjnych związanych z niepewnym przywiązaniem. W niniejszej rozprawie proponuję, że orientacja na wymianę pełni funkcję mechanizmu kompensacyjnego u osób z niepewnym stylem przywiązania, a jednocześnie – mimo swojej funkcji radzenia sobie – wiąże się z negatywną konsekwencją w postaci uprzedmiotowienia innych. W pierwszym artykule (opublikowanym w Basic and Applied Social Psychology, 2026) trzy badania (N = 2,309) wykazały, że zarówno lękowy, jak i unikowy styl przywiązania pozytywnie przewidują orientację na wymianę poprzez odrębne mechanizmy. Potrzeba domknięcia poznawczego mediowała związek między lękiem a orientacją na wymianę, natomiast potrzeba kontroli mediowała związek między unikaniem a orientacją na wymianę. Wyniki zostały potwierdzone w badaniach podłużnych oraz międzykulturowych w próbach z Wielkiej Brytanii i Republiki Południowej Afryki. Drugi artykuł (N = 1,668; Wielka Brytania, USA, Kanada) badał przyczynową ścieżkę od niepewnego przywiązania do uprzedmiotowienia poprzez orientację na wymianę, wykorzystując quasi-podłużne badania eksperymentalne oraz analizę mediacji przez moderację. Orientacja na wymianę wobec partnerów romantycznych mediowała tę zależność. Eksperymentalne wzbudzanie niepewności przywiązaniowej zwiększało poziom uprzedmiotowienia poprzez nasilenie orientacji na wymianę. Ponadto orientacja na wymianę moderowała związek między lękiem a uprzedmiotowieniem, a relacja między unikaniem a uprzedmiotowieniem była ponad dwukrotnie silniejsza w warunku wzbudzonej orientacji na wymianę w porównaniu do warunku kontrolnego. W trzecim artykule (opublikowanym w Acta Psychologica, 2026) trzy badania przekrojowe z Polski, Wielkiej Brytanii i Włoch (N = 1,222) wykazały, że unikowy styl

przywiązania pozytywnie przewiduje uprzedmiotowienie, a związek ten jest mediowany przez teorię umysłu oraz empatię. W szczególności styl unikowy wiązał się z obniżoną zdolnością mentalizowania i empatii, co z kolei prowadziło do większego uprzedmiotowienia innych.

Słowa kluczowe: przywiązanie, lęk przywiązaniowy, unikowe przywiązanie, orientacja na wymianę, uprzedmiotowienie interpersonalne, teoria umysłu, empatia, potrzeba domknięcia poznawczego, potrzeba kontroli

Abstract

Individuals with attachment insecurities experience maladaptive psychological and social consequences. Yet little is known about the compensatory mechanisms for attachment insecurities. In this dissertation, I propose that exchange orientation functions as a compensatory mechanism for individuals with attachment insecurities, and that despite serving a coping function, it carries a negative consequence as the objectification of others. In the first article (published in Basic and Applied Social Psychology, 2026), three studies (N = 2,309) demonstrated that both attachment anxiety and attachment avoidance positively predict exchange orientation through distinct mechanisms. Need for cognitive closure mediated the anxiety–exchange orientation link, while desire for control mediated the avoidance–exchange orientation link. Findings were replicated longitudinally and cross-culturally in UK and South African samples. The second article (N = 1,668; UK, USA, Canada) examined the causal pathway from attachment insecurities to objectification through exchange orientation, using quasi-longitudinal experimental studies and mediation-by-moderation analysis. Exchange orientation toward romantic partners mediated this relationship. Experimentally priming attachment insecurities increased objectification via heightened exchange orientation. Furthermore, exchange orientation moderated the anxiety–objectification link, and the avoidance–objectification relationship was more than twice as strong under exchange-orientation priming relative to control. In the third article (published in Acta Psychologica, 2026), three cross-sectional studies from Poland, the UK, and Italy (N = 1,222) demonstrated that attachment avoidance positively predicts objectification, mediated by Theory of Mind and empathy. Specifically, attachment avoidance was associated with reduced mentalizing and empathic capacity, which in turn predicted greater objectification.

Keywords: attachment, attachment anxiety, attachment avoidance, exchange orientation, interpersonal objectification, Theory of Mind, empathy, need for cognitive closure, desire for control

Introduction

Adult Attachment Insecurities

Attachment theory, originally formulated by Bowlby (1969, 1982), posits that infants form strong affective bonds with their primary caregivers as a fundamental mechanism for achieving security and comfort. The availability and responsiveness of caregivers during early development shape children's internal working models, which are cognitive-affective representations of the self and others that guide expectations and behaviors in close relationships across the lifespan (Bowlby, 1982; Zimmermann, 1999). These early relational experiences have lasting developmental consequences, influencing emotion regulation (Pascuzzo et al., 2013), emotional brain development (Moutsiana et al., 2015), and executive functioning (Ecer & Gasiorowska, 2026; Kamza & Putko, 2021).

Crucially, the patterns established in childhood may generalize to shape intimate relationships and broader social functioning throughout adulthood (Fraley & Shaver, 2000; Mikulincer & Shaver, 2007). When caregivers are inconsistently available or unresponsive, individuals may develop insecure attachment orientations that manifest along two continuous dimensions: attachment anxiety and attachment avoidance (Fraley, Waller, et al., 2000; Hazan & Shaver, 1994). These dimensions reflect fundamentally different strategies for regulating closeness, dependence, and vulnerability in interpersonal contexts. Individuals high in attachment anxiety tend to view themselves as less worthy of love and others as potentially unreliable. This produces a strong desire for closeness coupled with a chronic fear of abandonment, leading to hyperactivating strategies such as heightened reassurance seeking, intensified emotional expression, and preoccupation with relational threats, all aimed at maintaining proximity to attachment figures (Mikulincer et al., 2002; Mikulincer & Shaver,

2003, 2007, 2013). In contrast, individuals high in attachment avoidance tend to distrust others' intentions, prioritize self-reliance, and suppress emotional needs. They employ deactivating strategies such as emotional distancing, cognitive disengagement, and minimization of dependence to reduce vulnerability in close relationships (Ainsworth, 2014; Fraley & Shaver, 1997; Mikulincer & Shaver, 2017).

These distinct regulatory strategies associated with attachment insecurities have important consequences for self-perception and interpersonal behavior. Attachment anxiety is linked to a negative view of the self and a relatively positive view of others, whereas attachment avoidance is associated with a positive self-view and a negative, distrustful view of others (Bartholomew & Horowitz, 1991; Fraley, Waller, et al., 2000; Griffin & Bartholomew, 1994). Both dimensions are associated with difficulties in developing a coherent understanding of oneself and others, which can undermine the quality and stability of social relationships (Collins & Feeney, 2004; Mikulincer & Shaver, 2017).

Importantly, these insecure working models do not remain static. They persist into adulthood and continue to shape social interactions in consequential ways. Longitudinal research shows that attachment insecurities in adolescence predict greater difficulties in emotion regulation and interpersonal functioning in adulthood (Pascuzzo et al., 2013). Specifically, early social-cognitive experiences with significant others shape individuals' internal working models of the self and others. For instance, individuals with attachment anxiety exhibit hyperactivating strategies in close relationships, including heightened empathic distress and empathic concern toward significant others. However, these tendencies can contribute to maladaptive social outcomes, such as increased perceptions of rejection and avoidance of social interactions. In contrast, individuals with attachment avoidance adopt deactivating strategies characterized by

lower empathic concern and reduced personal distress toward attachment figures. These maladaptive internal working models are then carried over into novel social interactions, resulting in higher levels of social anxiety (Ecer, Barut, et al., 2026). This process of schema transfer has important implications for understanding how attachment insecurities shape broader interpersonal behavior (Ecer, Raguso, et al., 2026; Gasiorowska et al., 2022, 2026).

Consistent with these findings, adolescents with high attachment anxiety toward parents are more likely to exhibit similar anxious patterns with close friends, whereas those with attachment avoidance show consistent avoidant patterns across multiple relationship types (Bloxsom et al., 2021). Taken together, the two dimensions of attachment insecurity, anxiety and avoidance, shape not only emotional responses within close relationships but also the broader frameworks individuals use to structure their interpersonal world. Understanding these processes provides the theoretical foundation for the central argument of this dissertation. Based on the social defense theory of attachment styles (Ein-Dor, 2015), we propose that exchange orientation represents a compensatory relational strategy that helps individuals with attachment insecurity meet psychological needs while simultaneously increasing the likelihood of objectifying others.

Exchange Orientation as a Compensatory Relational Framework

Human social life is fundamentally motivated by the need to establish and maintain relationships (Baumeister & Leary, 1995). In daily life, individuals navigate a wide range of social interactions, from close romantic partners to distant colleagues, each governed by different relational norms that shape expectations regarding obligation, support, fairness, and emotional responsiveness. A foundational distinction in this domain is between communal and exchange relationships (Clark & Mills, 1979, 2012). Communal relationships, characteristic of bonds with close friends, family members, and romantic partners, are governed by norms of responsiveness

to others' needs without the expectation of equivalent return. Exchange relationships, in contrast, operate on the principle that providing a benefit creates an obligation for proportional reciprocation. Participants closely monitor the balance between what they give and what they receive and expect timely compensation of equivalent value (Clark & Mills, 2012; Fiske, 1992; Mills & Clark, 2013).

Although exchange norms are normatively appropriate in professional or transactional contexts, they can also emerge within intimate relationships (Clark et al., 2010; Halawa & Olcoń-Kubicka, 2018). When exchange norms are applied in relationships where communal norms are typically expected, this represents a meaningful deviation with significant psychological and relational consequences, including greater conflict, lower relationship satisfaction, and increased loneliness (Buunk & Prins, 1998; Jarvis et al., 2019; Sprecher, 1998). Several studies suggest that individuals differ in stable tendencies to adopt communal or exchange orientations across relationships (Clark & Mills, 1979, 2012; Mills & Clark, 2013). More recent work adopts a target-specific perspective, recognizing that individuals may display different orientations depending on the nature of the relationship with a particular person (Gasiorowska et al., 2025).

Accordingly, in this dissertation, exchange orientation is defined as a multidimensional construct that includes both relationship-specific tendencies, such as exchange orientation toward romantic partners and acquaintances (Gasiorowska et al., 2025), and a more general tendency reflecting transactional cognition in social interactions, referred to as a calculative mindset (Kim et al., 2021). The main aim of this dissertation is to examine whether attachment insecurities are associated with multidimensional exchange orientation. Moreover, based on the social defense theory of attachment insecurity (Ein-Dor, 2015), we investigate whether exchange orientation,

despite its adverse long-term consequences, serves psychological needs associated with attachment insecurities. We propose that individuals with attachment insecurity systematically adopt exchange-oriented relational rules because exchange-based relationships address specific psychological vulnerabilities that are difficult to resolve within communal attachment relationships. In particular, exchange orientation provides a rational and structured framework with clear and predictable rules (Fiske, 1992; Gasiorowska & Zaleskiewicz, 2021), which may be especially appealing when communal relationships are experienced as emotionally unpredictable or threatening to autonomy.

Importantly, we argue that the two dimensions of attachment insecurity lead to exchange orientation through distinct motivational pathways. For individuals high in attachment anxiety, chronic uncertainty about relational security may foster a strong motivation for order, predictability, and clear expectations. Exchange relationships directly address this epistemic need by offering explicit rules regarding giving and receiving, standardized frameworks for interaction, and a compensatory sense of certainty (Gasiorowska & Zaleskiewicz, 2021, 2023). Accordingly, we propose that the need for cognitive closure, defined as a desire for definite knowledge and structured social reality (Kossowska et al., 2002), mediates the relationship between attachment anxiety and exchange orientation.

For individuals high in attachment avoidance, the primary relational concern is not uncertainty but the potential loss of autonomy and unwanted dependence. Exchange-based interactions, which emphasize individual agency, reciprocal obligations, and limited emotional involvement, closely align with these motivations. Exchange and market contexts are associated with enhanced perceptions of agency and control (Gasiorowska & Zaleskiewicz, 2022), allowing individuals high in attachment avoidance to maintain independence while still engaging in social

relationships. Accordingly, we propose that the desire for control mediates the relationship between attachment avoidance and exchange orientation. These two pathways are examined empirically in the first article of this dissertation. However, adopting an exchange orientation may also impair social cognition (Xiao & Xin, 2024). Evidence indicates that exchange orientation reduces social skills and is associated with lower levels of empathy (Kuzminska et al., 2023; L. Wang et al., 2014; Zaki et al., 2021). Although exchange orientation may enhance self-efficacy (Gasiorowska & Zaleskiewicz, 2022), it appears to diminish the perception of others (Belmi & Schroeder, 2021; Kuzminska et al., 2023; Xiao & Xin, 2024).

In the second part of the dissertation, we focus specifically on exchange orientation within romantic relationships. Longitudinal evidence shows that both attachment anxiety and avoidance predict increased exchange orientation toward romantic partners over time (Clark et al., 2010; Gasiorowska & Ecer, 2026). Drawing on the relational schemas framework, individuals may have social interactions with expectations of rejection, heightened threat sensitivity, or ambiguity based on prior relational experiences with significant others (Baldwin & Sinclair, 1996; Downey & Feldman, 1996; Hinkley & Andersen, 1996). For individuals with attachment insecurities, memories involving significant others are often associated with negative interpersonal outcomes such as avoiding and anxiety in relationships (Brumbaugh & Fraley, 2006). We therefore propose that exchange-oriented relational patterns developed in attachment relationships are transferred to broader social contexts, ultimately increasing interpersonal objectification.

Interpersonal Objectification

In this dissertation, we propose that although exchange orientation may serve a compensatory regulatory function for individuals with attachment insecurities, it comes at a cost

by restructuring how others are perceived. When relational interactions are organized around proportional returns and cost–benefit evaluation, close people are increasingly construed in terms of what they provide rather than who they are (X. Wang et al., 2022). This shift from need responsiveness to utility-based evaluation creates the cognitive conditions for interpersonal objectification. Interpersonal objectification refers to perceiving and treating others primarily as means to one's own ends while disregarding their autonomy, needs, and inner experiences (Haslam et al., 2008; LaCroix & Pratto, 2015; Nussbaum, 1995). This instrumental and dehumanizing orientation, characterized by diminished prosocial behavior and increased exploitative tendencies (Cheng et al., 2024) and often emerging from an exchange-based approach to relationships (X. Wang et al., 2022), has been linked to negative interpersonal outcomes, including increased aggression (Poon et al., 2020).

Despite these interpersonal costs, relatively little is known about the dispositional relational schemas that foster a chronic tendency to objectify others in everyday social interactions. Several antecedents of interpersonal objectification have been identified, including narcissism (Lachowicz-Tabaczek et al., 2021), interpersonal insecurity (Capozza et al., 2022), materialistic values (Ozimek et al., 2017), and lower gratitude (Shi et al., 2023). However, research on this topic remains limited, and most studies have focused on the consequences of sexual objectification rather than on broader interpersonal objectification (Basson, 2019; Jiao et al., 2022; Wollast et al., 2018).

Importantly, the relational norms and motivational frameworks through which attachment schemas translate into instrumental perceptions of others remain largely unexplored. The distinct mechanisms underlying attachment anxiety and avoidance suggest asymmetric implications for interpersonal objectification. Individuals high in attachment anxiety remain strongly oriented

toward relational closeness and validation. Although their hyperactivating strategies involve emotional dysregulation and heightened dependency, they do not necessarily entail a systematic dismissal of others' psychological reality. On the contrary, anxiously attached individuals are often highly attentive to others' reactions and approval (Gasiorowska et al., 2022). In contrast, attachment avoidance is characterized by deactivating strategies that suppress dependency needs, reduce trust, and downregulate attention to others' internal states. Individuals high in attachment avoidance tend to defensively minimize the importance of others' emotions and perspectives, prioritizing self-reliance and emotional distance (Ainsworth, 2014; Fraley & Shaver, 1997; Mikulincer & Shaver, 2017). Attachment avoidance therefore provides a coherent psychological basis for interpersonal objectification, whereas attachment anxiety, despite its relational dysfunctions, does not inherently imply reduced recognition of others' subjectivity (Ecer, Raguso, et al., 2026).

Consistent with this reasoning, individuals high in attachment avoidance tend to hold a relatively positive view of the self and a negative view of others, which is associated with lower communal orientation (Bartz & Lydon, 2004). When interacting with others, they may also exhibit lower levels of oxytocin, which may contribute to perceiving others as less trustworthy (Bartz et al., 2015). In contrast, individuals high in attachment anxiety typically desire closeness, display higher levels of empathy, and maintain a negative self-view alongside a relatively positive view of others (Bartz & Lydon, 2004; Monin et al., 2010; Pan et al., 2022). Accordingly, we expected that attachment avoidance would show a stronger and more consistent positive association with interpersonal objectification, whereas the association with attachment anxiety would be weaker or absent.

Beyond this direct pathway, the present dissertation proposes that exchange orientation toward romantic partners serves as a key relational mechanism linking attachment insecurities to interpersonal objectification more broadly. According to the Social Interaction Model of Objectification (Gervais et al., 2020), engaging in cost–benefit analyses within relationships increases the likelihood of perceiving others in instrumental terms. We extend this framework by suggesting that when individuals with attachment insecurities adopt transactional norms in close relationships to reduce relational ambiguity or preserve autonomy, these norms generalize beyond the original context. Over time, they normalize an evaluative, outcome-focused construal of others, thereby increasing the tendency to perceive people as means to personal ends. This relational pathway integrates attachment theory with relational models theory and the market mindset literature, offering a more comprehensive account of how attachment-based vulnerabilities translate into a chronic tendency to objectify others in everyday social life.

In addition, we examined a socio-cognitive pathway as an alternative mechanism linking attachment insecurities to interpersonal objectification. Research indicates that individuals high in attachment avoidance tend to exhibit lower mentalizing abilities, reflected in difficulties understanding both themselves and others (Henry et al., 2022; Lyvers et al., 2019; Szpak & Białecka-Pikul, 2020). In contrast, individuals high in attachment anxiety often display heightened affective empathy but may struggle with accurate self and other reflection (Ecer, Barut, et al., 2026; Ecer & Gasiorowska, 2026). Accordingly, the third aim of this dissertation was to investigate socio-cognitive mechanisms, specifically empathy and Theory of Mind, in the relationship between attachment insecurities and interpersonal objectification. We propose that lower mentalizing and empathizing abilities among individuals high in attachment avoidance contribute to higher levels of interpersonal objectification.

Aims of the Dissertation

Despite extensive research on the psychological and social consequences of attachment insecurities, the compensatory mechanisms through which these insecurities operate in everyday interpersonal life remain poorly understood. Most prior work has focused on maladaptive outcomes of attachment anxiety and avoidance, such as emotion dysregulation, relationship dissatisfaction, and interpersonal conflict (Fraley, Garner, et al., 2000; Mikulincer & Shaver, 2007), without systematically examining the relational strategies individuals adopt to manage attachment-related vulnerabilities. Moreover, the consequences of such compensatory strategies for how others are perceived and treated have received limited empirical attention (Nussbaum, 1995; X. Wang et al., 2022). This dissertation addresses these gaps through three interrelated empirical articles.

The first aim is to examine whether and why attachment insecurities predict multidimensional exchange orientation, including relationship-specific exchange orientation toward romantic partners and acquaintances, as well as a general calculative mindset. We investigate distinct psychological mechanisms underlying these associations. Specifically, we propose that the need for cognitive closure mediates the relationship between attachment anxiety and exchange orientation, as exchange norms provide predictability and structure. In contrast, we propose that the desire for control mediates the relationship between attachment avoidance and exchange orientation, as transactional frameworks preserve autonomy. These mechanisms are tested using cross-sectional, cross-cultural, and longitudinal designs.

The second aim is to examine whether exchange orientation toward romantic partners mediates the relationship between attachment insecurities and interpersonal objectification. Extending prior findings that exchange orientation is linked to objectification within romantic

relationships (X. Wang et al., 2022), we test whether individuals with attachment insecurities who adopt exchange orientation also exhibit broader tendencies to objectify others. This integrative model is examined using quasi-longitudinal, experimental, and mediation-by-moderation designs.

The third aim is to investigate whether attachment avoidance specifically predicts a chronic tendency to objectify others and to identify the socio-cognitive mechanisms underlying this association. We propose that reduced Theory of Mind and empathy, both associated with deactivating strategies characteristic of attachment avoidance (Mikulincer & Shaver, 2017), mediate the relationship between attachment avoidance and interpersonal objectification (Calkins et al., 2023; Haslam et al., 2008; Nussbaum, 1995). Together, these three aims provide a theoretically coherent account of how attachment-based vulnerabilities translate into the ways individuals structure, evaluate, and perceive others in their social world.

Attachment insecurities and exchange orientation (Article 1)

The aim of the first article, comprising three studies, was to examine whether and why attachment insecurities predict exchange orientation toward romantic partners and acquaintances alongside a calculative mindset. Specifically, we aimed to identify the distinct psychological mechanisms through which attachment anxiety and attachment avoidance lead to exchange orientation. We propose that exchange orientation serves basic psychological needs for individuals with attachment insecurities. Specifically, for individuals with attachment anxiety, it provides certainty, predictability, and a desire for structure; for individuals with attachment avoidance, it provides autonomy and a sense of self-control. In Study 1, we examined whether attachment insecurities are related to exchange orientation toward romantic partners and acquaintances, as well as to a calculative mindset.

We conducted the study on a UK sample recruited through Prolific Academic ($N = 885$), where participants read a brief consent form and then completed thirteen blocks of questionnaires presented in random order. Attachment anxiety and avoidance were measured using the short version of the Experiences in Close Relationships Scale (Wei et al., 2007). Exchange orientation was assessed across three indicators: exchange orientation toward a romantic partner and exchange orientation toward an acquaintance, both measured using the target-specific Exchange Orientations Scale (Gasiorowska et al., 2025), and a calculative mindset, measured using the scale developed by Kim et al. (2021), which captures the tendency to convert social values and relationships into numeric or monetary metrics. To ensure that the observed relationships reflected genuine compensatory mechanisms rather than spurious associations with related constructs, an extensive set of control variables was included: personality traits measured with the HEXACO inventory (Ashton & Lee, 2009), Dark Triad traits (Jonason & Webster, 2010), material values (Richins, 2004), basic psychological needs (Sheldon & Hilpert, 2012), self-esteem (Robins et al., 2001), emotional intelligence (Lekaviciene & Antiniene, 2016), greed (Krekels & Pandelaere, 2015), and self-construal (Singelis, 1994).

We found that both dimensions of attachment insecurity were positively related to exchange orientation toward romantic partners and to a calculative mindset, whereas only attachment anxiety was positively related to exchange orientation toward an acquaintance, while attachment avoidance was negatively related only after controlling for covariates. These results suggest that exchange orientation serves a genuine compensatory function rather than reflecting general personality dispositions.

In preregistered Study 2, we aimed to address the primary limitation of Study 1, namely its cross-sectional design, by employing a one-year longitudinal follow-up with the same UK

participants from Study 1 ($N = 648$). We aimed to explore the temporal relationship between attachment insecurities and exchange orientation. We hypothesized that (H1) the causal model would provide a better fit to the data than the stability, reversed causal, and reciprocal models. Participants who had provided valid data at Time 1 were re-invited one year later and completed the same measures of attachment anxiety, avoidance, and exchange orientation. To examine causal relationships, we tested four competing structural models: a stability model examining only autoregressive paths across time points, a causal model adding paths from attachment dimensions at Time 1 to exchange orientation at Time 2, a reversed causal model adding paths from exchange orientation at Time 1 to attachment dimensions at Time 2, and a reciprocal model including both sets of cross-lagged paths.

As we expected, the causal model provided a superior fit compared to competing models, and attachment insecurities at Time 1 predicted exchange orientation toward romantic partners at Time 2, whereas none of the reverse paths reached significance. Our findings suggest that attachment insecurity predicts exchange orientation toward a romantic partner, whereas only attachment anxiety predicted the calculative mindset. Additionally, neither dimension of attachment insecurity predicted exchange orientation toward an acquaintance.

In preregistered Study 3 ($N = 776$), we examined the psychological mechanisms underlying the attachment–exchange orientation associations identified in Studies 1 and 2, using samples from the UK and South Africa. The cross-cultural design served two purposes: it tested whether the proposed mechanisms operate consistently across different cultural contexts, with the UK representing a more individualistic and South Africa a more collectivistic cultural environment, and it provided an additional robustness check for the overall findings.

We hypothesized that (H1) the relationship between attachment anxiety and exchange orientation would be mediated by need for cognitive closure, as exchange norms provide the predictability and structure that reduce relational uncertainty for individuals with attachment anxiety; and (H2) the relationship between attachment avoidance and exchange orientation would be mediated by desire for control, as transactional frameworks preserve autonomy and limit emotional closeness for individuals with attachment avoidance.

Participants completed the same measures of attachment anxiety and avoidance, three aspects of exchange orientation, need for cognitive closure (Roets & Van Hiel, 2011), and desire for control (Burger & Cooper, 1979). A Bayesian multiple mediation model was estimated in Mplus, with attachment dimensions as independent variables, exchange orientation components as dependent variables, and need for cognitive closure and desire for control as parallel mediators.

The results confirmed both hypotheses across the merged and culture-specific samples. Attachment anxiety was positively associated with need for cognitive closure but not desire for control, while attachment avoidance was positively associated with desire for control but not need for cognitive closure. Both mediators, in turn, were positively associated with all three components of exchange orientation. Multigroup analyses revealed that the primary hypothesized pathways held across both the UK and South African samples, although some additional culture-specific pathways emerged, suggesting that the core compensatory mechanisms are largely universal while their expression may be shaped by cultural context. Specifically, supplementary multigroup analyses revealed that in South Africa, individuals with attachment anxiety were negatively associated with desire for control, which then contributed to higher exchange orientation, while individuals with attachment avoidance were negatively linked

to need for cognitive closure, which then contributed to higher exchange orientation. This article was published in Basic and Applied Social Psychology (Gasiorowska & Ecer, 2026).

Attachment Insecurities, Exchange Orientation and Objectification (Article 2)

We designed the second article, comprising three studies using complementary quasi-longitudinal and experimental designs, to examine exchange orientation toward romantic partners as a relational mechanism through which attachment insecurities translate into interpersonal objectification. Extending Article 1, we proposed that even though exchange orientation provides distinct psychological needs for individuals with attachment insecurities, it might have an interpersonal cost, such as objectifying others.

In the first cross-sectional study, we hypothesized that (H1) attachment avoidance at Time 1 would be positively associated with interpersonal objectification at Time 2, while we tested whether attachment anxiety would be related to interpersonal objectification; and (H2) these associations would be statistically mediated by exchange orientation toward a romantic partner at Time 1, such that higher attachment insecurity at Time 1 would predict higher exchange orientation at Time 1, which in turn would predict higher objectification at Time 2. We also tested whether these indirect effects would remain significant after controlling for Dark Triad traits at Time 1.

In Study 1, we employed a quasi-longitudinal design with UK participants recruited through Prolific Academic (N = 560). In the first phase, participants completed measures of attachment anxiety and avoidance using the short version of the Experience in Close Relationships Scale (Wei et al., 2007), alongside Dark Triad traits measured with the Dirty Dozen questionnaire (Jonason & Webster, 2010), and exchange orientation toward a romantic partner using the target-specific Exchange Orientations Scale (Gasiorowska et al., 2025). Six

months later, the same participants were re-invited and completed measures of interpersonal objectification, measured using the scale adapted by Lachowicz-Tabaczek et al. (2021) from Gruenfeld et al. (2008), which assesses the tendency to treat others instrumentally and to disregard their subjective attributes. As we expected, we found that individuals with attachment insecurities who had higher levels of exchange orientation toward romantic partners were linked to higher interpersonal objectification. These indirect effects remained significant after controlling for Dark Triad traits.

In preregistered experimental Study 2 ($N = 633$), we hypothesized that (H1) activating attachment avoidance relative to the control condition would increase interpersonal objectification; (H2) activating attachment anxiety relative to the control condition would increase interpersonal objectification; and (H3) both effects would be mediated by higher exchange orientation toward a romantic partner; (H4) and these indirect effects would remain significant after controlling for communal orientation toward romantic partners and current mood.

We recruited US participants using Prolific Academic. Participants completed a task based on Baldwin et al. (1996), grounded in the attachment dimensions proposed by Hazan and Shaver (1987). Participants were asked to recall and describe a specific relationship and reflect on the emotions associated with it. In the attachment anxiety condition, participants were asked to recall and reflect on a relationship in which they feared rejection or abandonment. In the attachment avoidance condition, participants were asked to recall and reflect on a relationship in which they felt uncomfortable with emotional closeness or intimacy. In the control condition, participants were instructed to think about a stranger who made them feel uneasy. Following the manipulation, participants were instructed to provide brief details about the relationship,

including when it occurred, its duration, and the type of relationship. Subsequently, four blocks of measures were presented in randomized order. The first block included the same objectification measure as in Study 1. The second block included the target-specific Exchange Orientation Scale (ECO; Gasiorowska et al., 2025), measuring exchange orientation, and communal orientation toward a romantic partner or spouse. The third block included four items from the State Adult Attachment Scale (Gillath et al., 2009) that served as a manipulation check. Participants responded to items assessing attachment anxiety and avoidance. In the fourth block, participants rated their current mood.

We demonstrated that the attachment insecurity priming versus control group predicted interpersonal objectification through higher levels of exchange orientation toward romantic partners. Mainly, priming attachment avoidance significantly increased objectification relative to the control condition, and this effect was mediated by higher levels of exchange orientation toward a romantic partner. Priming attachment anxiety increased exchange orientation toward romantic partners, but its total effect on interpersonal objectification was not significant, suggesting that the anxiety pathway may be weaker or more context-dependent than the avoidance pathway, consistent with the theoretical argument that attachment avoidance is more directly linked to interpersonal objectification. These indirect effects remained significant after including communal orientation toward romantic partners as an alternative mediator in parallel mediation and current mood as a covariate.

In preregistered Study 3, using a mediation-by-moderation design, we hypothesized that (H1) exchange orientation priming would increase interpersonal objectification relative to the control condition; and (H2) exchange orientation priming would moderate the relationship between attachment insecurities and objectification, such that the positive association between

attachment insecurities and objectification would be stronger in the exchange orientation condition than in the control condition.

In this study, we recruited Canadian participants through Prolific Academic ($N = 475$). We activated exchange orientation toward a close person following a procedure adapted from X. Wang et al. (2022). Participants were randomly assigned to one of two conditions. In the exchange condition, participants recalled and described a past event in a close relationship where they adopted an exchange-oriented mindset. In the control condition, participants recalled and described the last time they spent time with their romantic partner. In both conditions, participants were instructed to describe the situation in detail, including their thoughts and feelings. To verify the effectiveness of the manipulation, participants responded to two adapted items from the Exchange Orientation Scale (ECO; Gasiorowska et al., 2025) to measure the current state of exchange orientation toward a romantic partner or spouse, as well as a measure of communal orientation. Participants then completed three blocks presented in random order: (1) a 7-item modified version of the Objectification Scale (Belmi & Schroeder, 2021), and (2) a current mood rating on a scale from -10 to +10, and the short version of the Experiences in Close Relationships Scale (Wei et al., 2007), measuring attachment anxiety and attachment avoidance.

The results confirmed both hypotheses. Exchange orientation priming increased objectification and moderated the relationship between attachment insecurities and objectification. Specifically, in the exchange priming condition, attachment anxiety was positively related to interpersonal objectification, whereas it was not related in the control condition. Attachment avoidance was positively related to interpersonal objectification in both conditions, but the effects were twice as strong as in the exchange orientation condition compared to the control condition. Therefore, our findings provide experimental evidence that

exchange-based thinking serves as a relational mechanism by which attachment-based vulnerabilities translate into an instrumental perception of others. This article has been submitted to the British Journal of Social Psychology.

Attachment avoidance and Objectifications: Alternative Mechanisms (Article 3)

The aim of the third article, comprising three studies conducted in Poland, the United Kingdom, and Italy, was to further examine whether attachment avoidance specifically predicts a chronic tendency to objectify others interpersonally, and to identify the sociocognitive mechanisms, other than exchange orientations, that account for this relationship. To this end, we investigated Theory of Mind and empathy as two mechanisms linking attachment avoidance and objectification. The theoretical rationale centered on the deactivating strategies characteristic of attachment avoidance: by habitually suppressing emotional needs, distancing from others' internal states, and prioritizing self-reliance over relational engagement, avoidantly attached individuals may develop systematic deficits in the capacities for mentalization and affective resonance that normally inhibit instrumental perception of others (Ghiasi et al., 2016; Richman et al., 2015; Szpak & Białecka-Pikul, 2020). In contrast, attachment anxiety, despite its relational dysfunctions, was not expected to predict objectification, as anxiously attached individuals remain strongly oriented toward others' reactions and approval and do not systematically suppress awareness of others' psychological reality (Mikulincer & Shaver, 2007). We hypothesized that (H1) attachment avoidance would be positively associated with interpersonal objectification when controlling for attachment anxiety. We formulated no specific hypothesis for attachment anxiety.

In Study 1, conducted on a Polish student sample ($N = 377$) recruited in exchange for course credit, participants completed two questionnaire blocks presented in random order. We

measured attachment using the Revised Adult Attachment Scale (Adamczyk, 2012; Collins, 1996), which assesses attachment anxiety, closeness, and dependence. We operationalized attachment avoidance by reverse-coding and averaging the closeness and dependence subscales, providing an indicator of discomfort with intimacy and reliance on others. We measured interpersonal objectification using the scale adapted by Lachowicz-Tabaczek et al. (2021) from Gruenfeld et al. (2008), which assesses the tendency to think more about what others can do for oneself than what one can do for them, to treat others as interchangeable, and to prioritize others' tangible attributes over their human qualities.

We demonstrated that attachment avoidance was positively related to interpersonal objectification, while attachment anxiety was not, providing initial cross-sectional evidence for the specificity of the avoidance-objectification link and establishing the empirical foundation for the subsequent studies.

In Study 2, we aimed to replicate the finding from Study 1 using a different operationalization of attachment, to extend it with a quasi-longitudinal design, and to test Theory of Mind as a potential mediating mechanism. We hypothesized that (H1) attachment avoidance at Time 1 would be positively associated with interpersonal objectification, but not self-objectification, at Time 2, and (H2) this association would be statistically accounted for by Theory of Mind at Time 2, such that avoidance would be negatively associated with Theory of Mind, which would in turn be negatively associated with objectification. We formulated no specific hypothesis for attachment anxiety.

We recruited UK participants ($N = 560$) through Prolific Academic in two phases separated by six months. In the first phase, participants completed the 12-item Experience in Close Relationships Scale (Wei et al., 2007), directly assessing attachment anxiety and

avoidance as continuous dimensions, alongside the 60-item HEXACO personality inventory (Ashton & Lee, 2009) to be used in a robustness check. Six months later, we re-invited the same participants to complete the measures of Theory of Mind, interpersonal objectification, and self-objectification. We operationalized Theory of Mind using items from the trait Theory of Mind Inventory, Self Report Adult version (Hutchins et al., 2021), capturing perceived ability to infer others' thoughts and intentions. We used the same interpersonal objectification scale as in Study 1. We measured self-objectification using the Self-Objectification Beliefs and Behaviors Scale (Lindner & Tantleff-Dunn, 2017), included to rule out the alternative explanation that avoidant individuals objectify broadly including themselves rather than specifically perceiving others instrumentally.

We conducted path analysis in Jamovi with bootstrapped confidence intervals. A second model added HEXACO personality traits as covariates of both dependent variables. The results confirmed both hypotheses. Attachment avoidance predicted interpersonal objectification but not self-objectification, and the indirect effect via Theory of Mind was significant. After controlling for HEXACO personality traits, the total effect of avoidance on objectification became non-significant while the indirect effect via Theory of Mind remained significant, indicating that the mentalizing pathway is specific and not reducible to general personality characteristics such as low agreeableness.

In the preregistered Study 3, we hypothesized that (H1) attachment avoidance would be positively associated with interpersonal objectification and negatively related to attribution of humanity, and that this relationship would be statistically accounted for by (H2a) Theory of Mind and (H2b) empathy as parallel mediators. We formulated no specific hypotheses for attachment anxiety. We conducted Study 3 with an Italian sample ($N = 285$) recruited via

Prolific Academic and extended the mediation model in two important ways. First, we added empathy as a parallel mediator alongside Theory of Mind to test whether affective resonance, not only cognitive mentalization, independently accounts for the avoidance-objectification link. We measured empathy using the Italian Brief Version of the Interpersonal Reactivity Index (Diotaiuti et al., 2021). Second, we operationalized objectification more comprehensively using two complementary measures: the instrumentality scale used in Studies 1 and 2 (Lachowicz-Tabaczek et al., 2021) and a Mental State Attribution task (Haslam et al., 2008), in which participants indicated the extent to which people they interact with in everyday life are capable of experiencing a range of mental states prototypically associated with human beings. This addition was theoretically important because instrumentality and the attribution of humanity are two fundamental, albeit partially distinct, components of objectification. We measured attachment using the Italian version of the 12-item Experience in Close Relationships Scale (Brugnera et al., 2019). We measured Theory of Mind using an Italian version of the trait Theory of Mind Inventory, Self Report Adult (Hutchins et al., 2021). We conducted structural equation modeling with bootstrapped indirect effects in Mplus.

The results confirmed all hypotheses. Attachment avoidance was positively associated with objectification and negatively related to attribution of humanity, and both indirect effects via Theory of Mind and empathy were significant, supporting the robustness of the sociocognitive pathway across multiple operationalizations of the dependent variable. Even though we did not have a specific hypothesis for attachment anxiety, we found a complex relationship for attachment anxiety. Specifically, attachment anxiety was positively related to interpersonal objectification and empathy, and empathy was negatively related to objectification. The relationship between attachment anxiety and objectification was mediated by empathy,

which we suggest is a suppression effect. Additionally, attachment anxiety was not related to attribution of humanity, while this relationship was mediated by higher levels of empathy. These results can explain why the relationship between attachment anxiety and interpersonal objectification is context-dependent. In particular, exchange orientation might heighten this relationship, while empathy might reduce it. This article was published in Acta Psychologica (Ecer, Raguso, et al., 2026)

Discussion

The aim of the dissertation was to examine the psychological mechanisms through which adult attachment insecurities translate into compensatory relational strategies and, ultimately, into the tendency to objectify others in everyday interpersonal life. Within the framework of the prepared dissertation, I conducted nine studies divided into three thematic articles.

The first article comprised three studies examining whether and why attachment insecurities predict exchange orientation toward a romantic relationship and acquaintance and calculative mindset. The key finding of this article was a dual-pathway compensatory model in which both attachment anxiety and attachment avoidance predicted exchange orientation, but through qualitatively distinct psychological mechanisms. In Study 1, we demonstrated that both dimensions of attachment insecurity were positively associated with exchange orientation toward romantic partners and with calculative mindset, while only attachment anxiety and not avoidance was positively associated with exchange orientation toward acquaintances. These associations remained robust after controlling for an extensive set of personality traits, motivational variables, and value orientations, including Dark Triad characteristics, material values, greed, basic psychological needs, and self-construal. Additionally, after including covariates, the relationship between attachment avoidance and exchange orientation toward acquaintances became

negatively significant. This pattern is consistent with prior evidence that individuals with attachment insecurity apply exchange norms even in close relationships where communal norms are typically expected (Clark et al., 2010; Gasiorowska et al., 2025), and extends it by showing that this tendency cannot be explained by overlapping personality dispositions.

In Study 2, employing a one-year longitudinal design, we found that attachment insecurities at Time 1 predicted exchange orientation toward romantic partners at Time 2, while none of the reversed paths reached significance - exchange orientation did not predict subsequent changes in attachment insecurity. This temporal ordering is consistent with attachment theory's characterization of internal working models as enduring cognitive-motivational structures (Fraley & Brumbaugh, 2007; Mikulincer & Shaver, 2007) and supports the interpretation of exchange orientation as a motivated regulatory response to attachment-related threats rather than a stable trait that independently shapes relational behavior. Moreover, we demonstrated that attachment anxiety predicted calculative mindset, while attachment avoidance did not. We suggest that this specific mechanism might be linked to the fact that individuals with high attachment anxiety may hyperactivate and vividly recall these narratives, whereas those with attachment avoidance may suppress them (Lau-Zhu et al., 2023). This differential processing suggests that anxiously attached individuals may develop stronger calculative mindsets to manage future interactions by drawing on enhanced memory for past exchanges, whereas avoidantly attached individuals may apply calculative thinking more selectively and contextually, in response to autonomy threats or opportunities for personal gain.

In Study 3, we tested the proposed dual-pathway mediation model in samples from the United Kingdom and South Africa. The results confirmed that attachment anxiety predicted exchange orientation through elevated need for cognitive closure, reflecting the function of

transactional frameworks in providing the structure and predictability that anxiously attached individuals require (Kossowska et al., 2002; Mikulincer, 1997), while attachment avoidance predicted exchange orientation through elevated desire for control, reflecting the function of transactional frameworks in preserving the autonomy that avoidantly attached individuals prioritize (Burger & Cooper, 1979; Gasiorowska & Zaleskiewicz, 2022). Both pathways were confirmed across the merged sample and largely replicated within each country separately, with some additional culture-specific effects consistent with prior evidence that individualistic and collectivistic orientations shape the form and strength of attachment-based relational strategies (Bresnahan et al., 2004; Miller et al., 2014; Sakman & Sümer, 2024). The results of this article illustrate an important extension of attachment theory: internal working models guide not only behavior within close relationships, but also individuals' strategic choices about which relational rules to apply across social contexts (Fraley & Shaver, 2000; Gasiorowska & Zaleskiewicz, 2023).

Importantly, we observed the target-specific patterns. Mainly, attachment anxiety predicted exchange orientation broadly across relationship types, attachment avoidance predicted it selectively in the context of romantic intimacy indicating different attachment insecurities give rise to different compensatory strategies rather than a uniform preference for exchange orientation (Sun & Jakubiak, 2024). These findings advance prior theoretical work by identifying attachment insecurity as a motivational source of systematic biases toward exchange norms in contexts where communal norms would typically prevail (Clark et al., 2010; Gasiorowska et al., 2025), and by specifying the distinct regulatory processes through which this occurs.

The second article comprised three studies examining exchange orientation toward romantic partners as a relational mechanism through which attachment insecurities translate into

a chronic tendency to objectify others interpersonally. The key finding of this article was that both attachment anxiety and avoidance predicted interpersonal objectification through elevated exchange orientation toward romantic partners, and that this pathway was robust across quasi-longitudinal, experimental, and moderation designs. In Study 1, we found that both dimensions of insecurity predicted objectification six months later, and that the indirect effects via exchange orientation remained significant after controlling for Dark Triad traits. These results provided the first prospective evidence that adopting transactional norms within close relationships is a pathway by which attachment-based vulnerabilities lead to the instrumental perception of others, extending the Social Interaction Model of Objectification (SIMO; Gervais et al., 2020) beyond sexual and gendered contexts. In preregistered Study 2, we demonstrated causal evidence: activating attachment avoidance, but not anxiety, directly increased objectification relative to a control condition. Moreover, both attachment insecurities were positively associated with interpersonal objectification through elevated exchange orientation. The weaker effect of anxiety priming on objectification is consistent with theoretical accounts suggesting that individuals with attachment anxiety remain strongly oriented toward others' responses and approval (Mikulincer & Shaver, 2013).

In preregistered Study 3, we showed that experimentally inducing an exchange orientation moderated the positive association between attachment insecurity and objectification, providing experimental evidence that exchange-based thinking functions as a relational mechanism through which attachment-based vulnerabilities translate into instrumental perception of others, not only romantic partners (X. Wang et al., 2022). The results of this article are consistent with theoretical arguments that exchange orientation restructures how others are perceived by normalizing an evaluative, outcome-focused construal of social interactions (Clark

& Mills, 2012; Kuzminska et al., 2023). We suggest that when close relationships are organized around proportional returns and cost-benefit evaluation, others are increasingly perceived as functional entities rather than autonomous agents, a process that may generalize beyond the specific relational context in which exchange norms are first adopted. Our findings also support the idea that exchange orientation serves different regulatory functions for anxiously and avoidantly attached individuals: providing psychological security through structure and accountability for those high in anxiety, and preserving autonomy and emotional distance for those high in avoidance (Gasiorowska & Zaleskiewicz, 2023, 2024). Moreover, we showed that although an exchange-based relationship might be a compensatory strategy for individuals with attachment insecurities, it can negatively affect interpersonal relationships by leading to objectification of others.

The third article comprised three studies conducted in Poland, the United Kingdom, and Italy, examining attachment avoidance as a specific predictor of interpersonal objectification and identifying Theory of Mind and empathy as the socio-cognitive mechanisms underlying this relationship. The key finding was a consistent and specific association between attachment avoidance and the tendency to objectify others, replicated across all three studies and across different operationalizations of both attachment and objectification.

In Study 1, conducted on a Polish student sample, we found that attachment avoidance - but not attachment anxiety - was positively associated with interpersonal objectification, providing initial cross-sectional evidence for the specificity of the avoidance-objectification link. This is consistent with prior evidence that individuals with attachment avoidance exhibit reduced empathic concern and altruistic behavior (Ecer, Barut, et al., 2026; Pan et al., 2022), lower interest in others' pain (Irak et al., 2020), and a general tendency to view social interactions

through a pragmatic lens (Bartz & Lydon, 2008), all of which are conditions linked to objectification.

In Study 2, employing a quasi-longitudinal design with UK participants, we found that attachment avoidance at Time 1 predicted interpersonal objectification - but not self-objectification - at Time 2 through lower levels of Theory of Mind at Time 2. After controlling for HEXACO personality traits, the total effect of avoidance on objectification became non-significant while the indirect effect via Theory of Mind remained significant, indicating that the mentalizing pathway is specific and cannot be fully explained by general personality characteristics.

In the preregistered Study 3, conducted with an Italian sample, we extended the model by including empathy as a parallel mediator alongside Theory of Mind and by operationalizing objectification in two dimensions, capturing both instrumentalizing others and reducing the attribution of humanity to them (Haslam et al., 2008; Nussbaum, 1995). Our findings confirmed that both indirect effects via Theory of Mind and empathy were significant across both operationalizations, supporting the robustness of the socio-cognitive pathway. The complex pattern observed for attachment anxiety - a positive direct effect on objectification combined with a negative indirect effect via empathy - is consistent with theoretical accounts distinguishing empathic distress from empathic concern (Preckel et al., 2018), and with prior evidence that individuals with attachment anxiety experience elevated personal distress in response to others' suffering that may paradoxically increase objectification as a self-protective strategy (Ardenghi et al., 2022; Ecer, Barut, et al., 2026; Kural & Kovács, 2022). Therefore, we can suggest that individuals with attachment anxiety who have higher empathy may use social

isolation as a defense mechanism. Future studies should explore whether dimensions of empathy regulate or dysregulate the relationship with interpersonal objectification.

The results of this article extend the recent theoretical framework proposed by Calkins et al. (2023), who outlined conceptually how attachment insecurity may contribute to objectification but focused primarily on sexual and partner-directed forms. In contrast, the present findings demonstrate that these processes generalize to broader interpersonal contexts and provide empirical evidence for the specific socio-cognitive mechanisms involved. By showing that the deactivating strategies characteristic of attachment avoidance - emotional suppression, withdrawal, and systematic downregulation of attention to others' subjective experiences (Bowlby, 1982; Henry et al., 2022; Stern & Cassidy, 2018)- reduce both Theory of Mind and empathy, which in turn increase objectification, the present research offers a mechanism-based account of how attachment-related emotional distancing shapes the fundamental perception of others as psychological agents.

Taken together, the three articles trace a theoretically coherent pathway from attachment insecurity through compensatory relational strategies to the instrumental perception of others. The findings show that individuals with attachment insecurities adopt exchange-oriented frameworks for qualitatively different reasons depending on the nature of their insecurity, and that these frameworks - while serving short-term regulatory functions - simultaneously restructure how others are perceived and evaluated. For individuals with attachment avoidance in particular, this objectifying tendency is further reinforced by deficits in the socio-cognitive capacities through which others' subjectivity is normally recognized, creating a compounding pathway from attachment avoidance to objectification that operates through both relational and socio-cognitive routes.

Limitations and Future Directions

The research presented in the dissertation is not without limitations. The first concerns the predominant reliance on self-report measures across all nine studies. Although self-report scales have well-established validity for assessing attachment insecurity (Fraley, Waller, et al., 2000; Wei et al., 2007), exchange orientation (Gasiorowska et al., 2025), Theory of Mind (Hutchins et al., 2021), and objectification (Lachowicz-Tabaczek et al., 2021), they may not fully capture how these processes manifest in actual dyadic behavior. Self-reported Theory of Mind and empathy in particular reflect perceived rather than demonstrated mentalizing and affective capacity. Future research should incorporate behavioral and observational methods — such as daily diary studies tracking exchange-oriented behavior within ongoing relationships, laboratory interaction tasks involving real couples, or performance-based assessments such as the Movie for the Assessment of Social Cognition (Dziobek et al., 2006) to provide more ecologically valid evidence for the proposed pathways.

A second limitation concerns causal inference in the observational and quasi-longitudinal studies. Although the experimental designs of the second article and the longitudinal designs of the first and third articles substantially strengthen causal interpretation, the mediation findings of the first and third articles remain correlational. Future research could directly manipulate need for cognitive closure through epistemic threat paradigms and desire for control through control deprivation tasks, and subsequently measure exchange orientation as an outcome, to provide a stronger causal test of the proposed mechanisms. Experimental manipulations of attachment security priming (Gillath & Karantzas, 2019) could also be used to examine whether temporarily increasing felt security reduces both exchange orientation and objectification, which would have

important practical implications, given that even briefly primed attachment security has been shown to reduce dehumanization tendencies (Capozza et al., 2022; Guo et al., 2024).

A third limitation concerns the scope of relationship targets and cultural contexts examined. The dissertation focused primarily on romantic relationships and acquaintanceships and on samples from Poland, the United Kingdom, the United States, Canada, Italy, and South Africa. The psychological functions served by exchange orientation likely vary across other relational contexts — including family relationships, close friendships, and workplace interactions — and across more culturally diverse populations beyond the largely Western samples studied here (Apicella et al., 2020; Henrich et al., 2010). Therefore, large-scale cross-cultural studies spanning more diverse populations are needed to determine the universality of the proposed pathways (Keller, 2013; Sakman & Sümer, 2024).

A fourth limitation concerns the small to moderate effect sizes observed across most studies. Although these effects replicate consistently across complementary designs and operationalizations, they suggest that additional unmeasured mechanisms contribute to the relationships between attachment insecurity, exchange orientation, and objectification. Future research should examine alternative mediators including interpersonal trust deficits (Caina et al., 2016; Rodriguez et al., 2015), emotion regulation difficulties (Monin et al., 2010), power motivation (Gruenfeld et al., 2008; Overall, 2019), and risk regulation processes (Bartz & Lydon, 2008; Murray et al., 2006), as well as moderators such as relationship length, relationship quality, and individual differences in attachment organization at the representational level.

Practical Implications

The findings of this dissertation have several implications for clinical and applied settings. First, the identification of exchange orientation as a compensatory relational strategy

suggests that therapeutic work with insecurely attached individuals might benefit from explicitly addressing relational norms and their psychological functions (Jarvis et al., 2019). Helping clients recognize when they are applying exchange norms in communal relationship contexts and understanding the fears and needs that motivate this application may facilitate more adaptive relational functioning (Eldridge, 2019).

Second, at the societal level, the findings highlight the relational costs of chronic insecurity—not only for insecurely attached individuals themselves but for those they interact with. When others are perceived primarily as sources of predictability, control, or reciprocal obligation, their full humanity is diminished. Promoting secure attachment, through early intervention, parenting support programs, and community-based initiatives may have downstream benefits for the quality of social relationships at a population level (Capozza et al., 2022).

Third, the finding that ToM and empathy deficits mediate the avoidance–objectification link suggests that interventions targeting these socio-cognitive capacities may be effective in reducing objectifying interpersonal tendencies. Attachment-based interventions that enhance felt security (Gillath & Karantzas, 2019), alongside mentalization-based therapies that develop reflective functioning (Fonagy & Bateman, 2007), may be particularly well-suited to addressing this pathway.

Conclusion

The present dissertation revealed a theoretically coherent and empirically robust pathway from adult attachment insecurities through compensatory transactional relational strategies to the instrumental perception of others, showing not only that individuals with attachment insecurities are more likely to adopt exchange norms and to objectify others, but also explaining the distinct

psychological processes through which these outcomes emerge. By identifying need for cognitive closure and desire for control as distinct mediators of the link between attachment insecurity and exchange orientation, exchange orientation toward romantic partners as a relational mechanism connecting insecurity to objectification, and Theory of Mind and empathy as the socio-cognitive mechanisms connecting avoidance to objectification, the dissertation provides a process-level account of attachment-based interpersonal dysfunction that extends beyond intimate relationships to the broader social environment.

The combination of cross-sectional, longitudinal, experimental, and cross-cultural designs employed across the three articles provides converging evidence for the proposed pathways and supports their generalizability. These findings contribute new theoretical knowledge to the intersection of attachment theory, relational model theory, and the social psychology of objectification, and may have practical implications for designing interventions aimed at promoting attachment security, reducing transactional relational cognitions, and strengthening socio-cognitive skills as a means of reducing objectifying tendencies in interpersonal life. These threads will be explored in further research.

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From Insecurity to Exchange: Attachment Anxiety and Avoidance Predict Exchange Orientation via Different Psychological Mechanisms

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ABSTRACT

Across three studies ($N = 2,309$), we examined the relationship between attachment insecurity and aspects of exchange orientation. Study 1 showed that attachment anxiety was related to exchange orientation toward romantic partners and acquaintances, and calculative mindset, whereas attachment avoidance was related to exchange orientation toward romantic partners and a calculative mindset. Preregistered Study 2 replicated these links longitudinally. Preregistered Study 3 revealed distinct mechanisms: need for cognitive closure mediated the link between anxiety and exchange orientation, while desire for control mediated the link between avoidance and exchange orientation. Together, we show that exchange orientation functions as a compensatory mechanism, providing predictability and alleviating uncertainty for individuals with high attachment anxiety and preserving autonomy for individuals with high attachment avoidance.

Introduction

Adult attachment orientations fundamentally shape how individuals navigate their interpersonal world. Grounded in Bowlby's (1982) attachment theory and the social-cognitive model of learning, attachment patterns are encoded as internal working models, or mental representations of the self and others that guide expectations and behaviors in close relationships. These patterns, shaped by early caregiving experiences, are central to adult interpersonal functioning (Fraley et al., 2000; Hazan & Shaver, 1994). Importantly, attachment theory does not merely describe interpersonal preferences but provides a developmental and motivational framework for understanding how individuals regulate closeness, dependence, and vulnerability in social relationships. As such, attachment orientations have implications not only for intimacy and emotional bonds, but also for the broader rules and norms individuals apply when engaging with others (Gasiorowska et al., 2022).

Attachment insecurity in adulthood is commonly conceptualized along two continuous dimensions: attachment anxiety and attachment avoidance (Fraley et al., 2000). High levels of attachment anxiety are characterized by viewing the self as less worthy of love and others as potentially unreliable. This results in a strong desire for closeness, coupled with fears of rejection, and is associated with hyperactivating strategies, such as heightened reassurance-seeking and preoccupation with relationship threats (Mikulincer & Shaver, 2013). In contrast, high levels of attachment avoidance are associated with viewing others as untrustworthy and a defensive over-reliance on the self, leading to a preference for emotional distance and self-reliance. These individuals use deactivating strategies; for example, they may minimize emotional expression and suppress their need for closeness (Ainsworth, 2014; Belsky & Nezworski, 2015). These deactivating strategies include emotional disengagement and cognitive distancing aimed at reducing vulnerability in interpersonal settings (Fraley & Shaver, 1997).

High levels of attachment insecurity pose fundamental challenges in navigating close relationships. Individuals with high attachment anxiety may experience chronic uncertainty and heightened vigilance to relational threats due to the unpredictability of emotional support. Those with high attachment avoidance may find that the vulnerability of intimate connections conflicts with their core need for autonomy and self-reliance. These challenges raise a broader

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theoretical question: how do individuals with insecure attachment structure their social relationships to allow for social functioning while protecting themselves from the perceived risks of intimacy?

In this project, we argue that one answer lies in the systematic adoption of exchange-oriented relationship rules. We propose that, in the context of attachment insecurity, individuals may apply exchange-oriented principles not only to distant relationships but also to close ones, because such frameworks fulfill psychological needs that are difficult to satisfy within emotionally interdependent attachment relationships. Specifically, exchange-oriented interpretations of social relationships offer predictability, clear rules, and calculability—features that reduce emotional uncertainty for anxiously attached individuals and help avoidantly attached individuals maintain autonomy and control.

Exchange orientation as an alternative relational framework

Human social life is fundamentally motivated by the need to establish and maintain relationships (Baumeister & Leary, 1995). In daily life, individuals navigate a wide range of social interactions, from close romantic partners to distant colleagues. These interactions are governed by different relational norms that shape expectations regarding obligation, support, fairness, and emotional responsiveness. In these diverse interactions, people sometimes assess their roles, responsibilities, and contributions through a cost–benefit lens. For example, in professional contexts, colleagues often conduct cost–benefit analyses to decide how much effort to invest, how to distribute responsibilities, or whether time spent together provides mutual benefit (Belmi & Schroeder, 2021). Similarly, romantic partners may negotiate how to divide household chores, manage shared finances, or allocate leisure time based on their perceptions of fairness or efficiency (Halawa & Olcoń-Kubicka, 2018).

This relational approach, which includes cost-benefit analysis and a focus on personal benefits, constitutes an exchange-oriented or transactional (market-like) relational perspective (Clark & Aragón, 2013; Clark & Mills, 2012; Gasiorowska et al., 2025). Whether relationships are governed by communal or exchange norms has significant implications for trust, intimacy, emotional support, and long-term relationship quality. Exchange relationships operate on the principle that accepting benefits creates a debt requiring equivalent compensation (Clark & Mills, 2012). Participants in these arrangements focus on meeting their own needs while closely monitoring the balance between what they give and what they receive. When one person provides resources or assistance, they anticipate timely reciprocation of equivalent worth (Clark et al., 1987; Clark & Taraban, 1991; Williamson et al., 1996).

In contrast, communal relationships are characterized by the provision of benefits without expectations of reciprocal obligation between parties (Clark & Mills, 2012). In these relationships, individuals offer various forms of assistance, including tangible goods, services, emotional support, praise, or caring gestures, without expecting equivalent returns. The fundamental characteristic of communal bonds is their non-reciprocal, unbalanced nature, in which individuals provide assistance primarily to promote the other person's well-being and satisfaction rather than to secure personal gain. Because communal norms require trust, emotional openness, and tolerance for imbalance, they may be particularly challenging for individuals who experience relationships as insecure or threatening.

According to Clark and Mills (2012; Mills & Clark, 1994, 2013), exchange-based interactions primarily occur in professional settings or between acquaintances who maintain boundaries around deeper connection or emotional closeness. In contrast, communal interactions typically characterize relationships with family members, close friends, or romantic partners. Most individuals naturally apply communal principles in inherently close relationships while using exchange-based approaches in more transactional situations. Importantly, when exchange norms are applied in close relationships where communal norms are expected, they represent a meaningful deviation with psychological and relational consequences. However, exchange-based principles can emerge even within intimate, close relationships (Clark et al., 2010; Halawa & Olcoń-Kubicka, 2018), indicating that some individuals use transactional frameworks even in contexts typically governed by communal expectations.

Clark et al. (1987; Clark & Mills, 2012; Mills & Clark, 1994) theorized that the distinction between communal and exchange relationships can manifest as stable individual differences in relational approaches, influencing how people navigate and interpret their social connections. From this theoretical perspective, people differ in their propensity to apply communal versus exchange-based principles across interpersonal interactions. These stable dispositional tendencies are termed "communal orientation" and "exchange orientation" respectively (Clark & Mills, 2012). Within their conceptual framework, Mills and Clark (1994)

proposed that these orientations function as enduring personality characteristics and approached them accordingly. However, recent research adopts a target-specific perspective, recognizing that individuals may simultaneously display different orientations depending on the nature of their relationship with a particular person (Gasiorowska et al., 2025). This target-specific framework allows examination of situations in which individuals exhibit strong preferences for both communal and exchange relationships, depending on the relational context and the specific individual involved. Therefore, in this project, we aimed to integrate these two approaches by treating exchange orientation both as a generalized personality trait and as a relationship-specific characteristic that varies according to the target person and situational context.

Why attachment insecurity leads to exchange orientation: need for cognitive closure and desire for control as mediators

The central theoretical contribution of this research is to explain *whether* and *why* individuals with attachment insecurity systematically adopt exchange-oriented relationship rules. We propose that although exchange-oriented relationships are associated with adverse long-term outcomes, including greater conflict, lower relationship satisfaction, and increased loneliness (Buunk & Prins, 1998; Jarvis et al., 2019; Sprecher, 1998; Wang et al., 2022), they nevertheless function as a compensatory relational strategy that addresses distinct psychological vulnerabilities associated with different forms of attachment insecurity. We ground this project in the idea that people intentionally apply exchange-oriented rules to both close and distant relationships, because such interpretations of social reality address specific psychological needs that cannot be easily fulfilled within attachment relationships: the need for cognitive closure in attachment anxiety and the desire for control in attachment avoidance. Exchange orientation (or market mindset) offers a rational, calculative structure with abstract, universal rules (Fiske, 1992; Gasiorowska & Zaleskiewicz, 2021). This structure can be especially appealing when communal relationships are experienced as emotionally risky, unpredictable, or autonomy-threatening—that is, for individuals high in attachment insecurity (Mikulincer & Shaver, 2007). As a result, exchange norms may serve a compensatory regulatory function by replacing emotional dependence with structure, clarity, and control (Gasiorowska and Zaleskiewicz 2023a, 20243b).

Prior research provided some evidence that both attachment anxiety and avoidance are associated with greater endorsement of exchange norms, even in close relationships (Clark et al., 2010; Gasiorowska et al., 2025). Although the theoretical connections between attachment insecurity and exchange orientation are compelling, the specific psychological mechanisms underlying these relationships remain unclear. Without identifying these mechanisms, it is difficult to determine whether exchange orientation reflects a stable dispositional preference or a motivated regulatory response to attachment-related threats. We propose that exchange orientation serves different compensatory functions for anxiously and avoidantly attached individuals, operating through distinct psychological pathways that address qualitatively different sources of relational threat.

Attachment anxiety is fundamentally characterized by chronic uncertainty about relational security, hypervigilance to potential rejection, and heightened sensitivity to ambiguity in close relationships. This persistent uncertainty fosters a strong motivation for order, predictability, and clear expectations. From a theoretical perspective, anxiety-based insecurity reflects an epistemic problem: individuals lack confidence in how relationships will unfold and how others will respond. Empirically, attachment anxiety is associated with a strong preference for order and a discomfort with ambiguity (Gasiorowska & Zaleskiewicz, 2021; Gollwitzer & Clark, 2019), whereas secure attachment is associated with greater openness and a reduced need for certainty (Mikulincer, 1997). These tendencies closely align with the construct of need for cognitive closure, defined as a desire for definite knowledge, predictability, and structured social realities (Kossowska et al., 2002). Therefore, individuals high in attachment anxiety may be particularly attracted to exchange norms because they provide predictability and a compensatory sense of certainty. Exchange relationships offer explicit rules about giving and receiving, clear expectations of reciprocity, and standardized frameworks for interaction (Gasiorowska & Zaleskiewicz, 2021), all of which directly address the epistemic uncertainty that defines attachment anxiety. We therefore propose that anxiously attached individuals adopt exchange norms not primarily for instrumental gain, but as a regulatory strategy that reduces ambiguity and restores psychological closure when communal relationships feel emotionally unpredictable.

In contrast, individuals high in attachment avoidance tend to be self-reliant and value autonomy over intimacy, often prioritizing independence even in close

relationships (Felton & Jowett, 2013; Ináncsi et al., 2015; Sun & Jakubiak, 2024). Consistent with this perspective, they may view close others as burdensome or autonomy-restricting (Haydon et al., 2020; Overall, 2019). For these individuals, the core threat is not uncertainty, but the loss of agency and unwanted dependence. Intimacy is experienced as constraining rather than ambiguous, triggering defensive strategies to maintain distance and control (Gasiorowska & Zaleskiewicz, 2023b). Exchange-based interactions, which emphasize individual agency, bounded obligations, and limited dependence, closely align with these motivational concerns. Exchange or market contexts are associated with enhanced perceptions of agency and control (Gasiorowska & Zaleskiewicz, 2022), and agentic orientations are linked to self-sufficiency and avoidance of dependence on others (Vohs et al., 2006, 2008). Agency encompasses both perceived competence and a sense of autonomy and control over one's actions (Abele et al., 2016). By clearly specifying obligations and limiting emotional entanglement, exchange norms allow individuals high in attachment avoidance to maintain independence while still engaging in social relationships (Gasiorowska & Zaleskiewicz, 2022). Thus, for individuals high in attachment avoidance, exchange orientation may serve as a compensatory strategy that preserves autonomy and minimizes relational vulnerability rather than reducing uncertainty.

Taken together, these arguments suggest that although both attachment anxiety and attachment avoidance may be associated with greater exchange orientation, they do so for fundamentally different psychological reasons. For individuals high in attachment anxiety, exchange orientation serves to restore predictability and cognitive closure in the face of relational uncertainty. For individuals high in attachment avoidance, it serves to protect autonomy and control in the face of intimacy-related threats. This dual-pathway model positions exchange orientation as a flexible compensatory strategy rather than a uniform relational preference. Accordingly, we predicted that the relationship between attachment anxiety and exchange orientation would be mediated by need for cognitive closure, reflecting the regulation of uncertainty, whereas the relationship between attachment avoidance and exchange orientation would be mediated by desire for control, reflecting the regulation of autonomy threats. By testing these mechanisms simultaneously, the present research offers a process-level account of how distinct forms of attachment insecurity translate into similar relational outcomes through different psychological routes.

Overview of the studies

In this project, we examined the link between attachment insecurity and exchange orientation across three complementary studies. Our goal was to establish both the robustness of this link and its underlying mechanisms. We used a multidimensional approach to measure exchange orientation, capturing both relationship-specific tendencies and a general predisposition for transactional thinking in social interactions. We measured three distinct aspects of exchange orientation based on theoretical considerations and empirical evidence suggesting that exchange-oriented approaches manifest differently across relational contexts. First, we assessed exchange orientations toward romantic partners and acquaintances using the target-specific Exchange Orientation Scale (Gasiorowska et al., 2025). This target-specific approach was crucial because it enabled us to examine whether attachment insecurities predict a preference for exchange norms differently in contexts in which communal norms typically prevail (e.g., romantic relationships) versus contexts in which exchange norms are more acceptable (e.g., acquaintanceships). Second, we included a calculative mindset, measured using Kim et al.'s (2022) scale, defined as "one's tendency to convert non-quantifiable social values and relationships into numeric or monetary metrics" (p. 2251). We chose this measure over Clark and Mills (2012) original general exchange orientation scale for several reasons. While a calculative mindset shows strong correlations with traditional exchange orientation measures, it demonstrates superior psychometric properties, including higher reliability, better construct validity, and more robust factor structure (Kim et al., 2022). Additionally, a calculative mindset specifically captures the cognitive tendency to quantify and monetize social interactions, a process that may be particularly appealing to individuals with attachment insecurities seeking structure (for those with high attachment anxiety) or control (for those with high attachment avoidance). This measure also represents a more contemporary conceptualization of exchange-oriented thinking and provides a relationship-general assessment that complements our target-specific measures.

Study 1 employed a large cross-sectional sample ($N = 885$) of UK participants to examine whether high attachment anxiety and avoidance are related to aspects of exchange orientation. To ensure that observed relationships reflected genuine compensatory mechanisms rather than spurious associations with related constructs, we controlled for an extensive set of variables including personality traits (HEXACO),

dark triad characteristics, material values, basic psychological needs, self-esteem, emotional intelligence, greed, and self-construal. This comprehensive approach aimed to isolate the unique contributions of attachment insecurities to exchange-oriented relationship approaches.

Preregistered Study 2 employed a one-year longitudinal design with the same UK participants from Study 1 ($N = 648$ at follow-up) to examine causal precedence. We tested four competing structural models: stability, causal, reversed causal, and reciprocal models to determine whether attachment insecurities temporally precede exchange orientation or whether these constructs exhibit bidirectional influences over time. This longitudinal approach addressed limitations inherent in cross-sectional designs and provided stronger evidence for the proposed causal direction from attachment insecurity to exchange orientation.

Preregistered Study 3 tested the proposed mechanisms behind the attachment-exchange orientation link using samples from South Africa ($N = 348$) and the UK ($N = 428$). This cross-cultural design also allowed us to examine the robustness of these mechanisms. Based on theoretical considerations, we hypothesized that high attachment anxiety would be positively related to exchange orientation through higher levels of need for cognitive closure (reflecting the compensatory function of structure and predictability), while high attachment avoidance would operate through higher levels of desire for control (reflecting the compensatory function of autonomy preservation). The cross-cultural design allowed us to examine whether these mechanisms operate consistently across different cultural contexts, with the UK representing a more individualistic culture and South Africa providing a more collectivistic comparison. By using different study designs, samples, and analyses across three studies, we provide strong, converging evidence that attachment insecurity is linked to exchange-oriented relationship approaches.

Transparency statement

This project adheres to ethical guidelines specified in the APA Code of Conduct and the Declaration of Helsinki and was approved by the Ethics Committee for Human Research of the SWPS University, Faculty of Psychology in Wroclaw. All participants provided informed consent within the survey system. Across studies, we report how we determined our sample size, all data exclusions (if any), and all measures used in the study, and we followed JARS (Kazak, 2018). All data, analysis codes, and preregistrations for Studies 2 and 3 are available at https://researchbox.org/4626. Data analysis was conducted using Jamovi 2.6.23 and Mplus 8.10.

Study 1

In Study 1, we aimed to provide initial evidence for the relationship between two continuous dimensions of attachment insecurity and various aspects of exchange orientation. We operationalized the former as attachment anxiety and avoidance, and the latter as (1) exchange orientation toward a romantic partner/spouse, (2) exchange orientation toward an acquaintance (Gasiorowska et al., 2025), and (3) calculative mindset (Kim et al., 2022). We hypothesized that both dimensions of attachment insecurity would be positively associated with these indicators of exchange orientation.

To ensure that the relationships between attachment insecurity and exchange orientation reflect genuine compensatory mechanisms rather than spurious associations, we included several control variables that are theoretically and empirically linked to both attachment dimensions and exchange-oriented constructs. Research has shown that both levels of attachment insecurities and aspects of exchange/market orientation are associated with dark triad traits (Bloxsom et al., 2021; Wang et al., 2022), self-construal (Sakman & Sümer, 2024), personality traits (Kim et al., 2022; Noftle & Shaver, 2006), emotional intelligence (Engelberg & Sjöberg, 2006; Li & Zheng, 2014), material values (Gasiorowska et al., 2022), greed (Chen, 2018; Seuntjens et al., 2015), basic psychological needs (Felton & Jowett, 2013; Howell et al., 2013), and self-esteem (Doinita, 2015; Zhang, 2009). These overlapping associations suggest that the relationships between higher levels of attachment insecurities and exchange orientation might be confounded by third variables, which could create spurious correlations. Therefore, we tested whether the attachment-exchange orientation links persist when controlling for these potentially confounding variables. This approach aimed to demonstrate that exchange orientation serves distinct compensatory functions for different dimensions of attachment insecurity, rather than reflecting general associations with related personality traits.

Participants and procedure

We conducted an *a priori* power analysis to determine the required sample size. The analysis was based on the correlation between attachment avoidance and exchange orientation toward close others reported by

Gasiorowska et al. (2025), that is, $r = 0.14$, $\alpha = 0.05$, and desired power $1 - \beta = 0.90$ (Faul et al., 2007). We found that the sample large enough to detect such an effect size with the expected power should include $n = 528$ participants. As we also aimed to test indirect effects, we doubled the number of participants and planned to include 1,056 participants.

One thousand and fifty-five U.K. participants with experience with current or previous romantic relationships were recruited through Prolific Academic (Palan & Schitter, 2018). Participants who failed to provide the correct response to at least one of these three items ($n = 170$) were excluded from further analyses, leaving a final sample of $N = 885$ participants (452 women, 427 men, 6 other/prefer not to say; median age = 41 years, $M = 43.54$, $SD = 13.36$).

After providing informed consent, participants completed demographic questions followed by thirteen blocks of measures presented in random order: (1) the short version of the Experience in Close Relationships Scale (Wei et al., 2007), measuring attachment anxiety and attachment avoidance, (2) the target-specific Exchange Orientation Scale with instructions asking participants to complete it based on their current or past romantic relationship (Gasiorowska et al., 2025), (3) the same scale completed with reference to an acquaintance or colleague (Gasiorowska et al., 2025), (4) the Calculative Mindset Scale (Kim et al., 2022), (5) the HEXACO Personality Inventory (Ashton & Lee, 2009), measuring honesty–humility, emotionality, extraversion, agreeableness, conscientiousness, and openness to experience, (6) the Emotional Intelligence Scale (Lekaviciene & Antiniene, 2016), measuring the understanding and management of one's own emotions, (7) Single-Item Self-Esteem Scale (Robins et al., 2001), (8) the short form of the Material Values Scale (Richins, 2004), (9) the Dirty Dozen Questionnaire (Jonason & Webster, 2010), measuring Machiavellianism, psychopathy, and narcissism; (10) the Balanced Psychological Needs Scale (Sheldon & Hilpert, 2012), measuring relatedness, competence, and autonomy; (11) the Dispositional Greed Scale (Krekels & Pandelaere, 2015), and (12) the Self-Construal Scale (Singelis, 1994), measuring interdependent and independent self-construal (see Table S1 in Supplementary Materials for sample items and answer scales). We also included three attention checks. The first check, included in the demographic section, asked participants to enter the current date. The other two were embedded within the questionnaires and instructed participants to select a specific response option (e.g., "Please choose 'Strongly agree' for this item").

Results

Table S2 in Supplementary materials present descriptive statistics and correlations between all variables measured in the study.

In the first step, we examined whether the three indicators of the exchange orientation, that is, exchange orientation toward a romantic partner, exchange orientation toward an acquaintance, and calculative mindset, represent a single latent construct or rather a multidimensional construct with correlated factors using Confirmatory Factor Analysis with Bayesian estimation. The measurement model showed excellent fit (95% Confidence Interval for the difference between the observed and the replicated χ^2 included 0 95% CI [−11.08, 12.70, RMSEA = 0, 90% CI [0, 0.075], CFI = 1.00, TLI = 1.00, SRMR = 0), with the strongest loading from exchange orientation toward a romantic partner ($\beta = 0.68$, Posterior SD = 0.04, 95% CI [0.58, 0.75]), followed by calculative mindset ($\beta = 0.54$, Posterior SD = 0.03, 95% CI [0.48, 0.59]), and exchange orientation toward an acquaintance ($\beta = 0.46$, Posterior SD = 0.04, 95% CI [0.38, 0.54]). However, the internal consistency of the latent variable was low, $\omega = .58$, suggesting that the three measures might not be the indicators of the same psychological phenomena. Therefore, we decided to analyze the data in this study using the three measures as separate but correlated dependent variables.

To test our hypothesis, we employed path analysis in Mplus 8.10 with the Bayesian estimator. We included three indicators of exchange orientation as dependent variables (correlated), and two dimensions of attachment insecurity as independent variables (correlated). The model demonstrated excellent fit, 95% CI for χ^2 [−16.43, 7.89], RMSEA = 0, 90% CI [00, 0.04], CFI = 1.00, TLI = 1.00). All reported estimates are based on standardized values.

In line with our hypotheses, we found that both attachment anxiety and attachment avoidance were positively associated with exchange orientation toward a romantic partner and with a calculative mindset. Moreover, attachment anxiety was positively related to exchange orientation toward an acquaintance, whereas this link for attachment avoidance was much weaker and negative (Table 1). These results remained the same after controlling for additional variables (Table S3 in Supplementary Materials).

To summarize, in Study 1, we found that both dimensions of attachment insecurity were positively related to calculative mindset and exchange orientation toward a romantic partner. Moreover, attachment anxiety was positively related to exchange orientation toward an acquaintance, while attachment avoidance

Table 1. Relationship between attachment anxiety and avoidance and indicators of exchange orientation.

	β	Posterior *SD*	95% CI
Paths			
Anx → EO-R	0.17	0.03	[0.12, 0.25]
Avo → EO-R	0.23	0.04	[0.16, 0.30]
Anx → EO-A	0.18	0.03	[0.12, 0.23]
Avo → EO-A	−0.05	0.03	[−0.12, 0.01]
Anx → CM	0.22	0.03	[0.15, 0.28]
Avo → CM	0.14	0.03	[0.08, 0.20]
Covariances			
Anx ↔ Avo	0.25	0.03	[0.19, 0.32]
EO-R ↔ EO-A	0.32	0.02	[0.26, 0.37]
EO-R ↔ CM	0.29	0.03	[0.24, 0.34]
EO-A ↔ CM	0.20	0.03	[0.13, 0.26]

Note. Anx: Attachment anxiety; Avo: Attachment avoidance; EO-R: Exchange orientation toward a romantic partner; EO-A: Exchange orientation toward an acquaintance; CM: calculative mindset.

was not. These results remained robust after controlling for potential confounders.

Study 2

In Study 1, we provided initial evidence that both high attachment anxiety and avoidance are associated with the exchange orientation and that this effect holds after controlling for potential confounds. However, as we used a cross-sectional design, we were not able to make any causal conclusions. We therefore conducted a longitudinal Study 2, where we measured our variables of interest twice over the span of one year. To examine causal relationships, we tested stability models versus nested models. We first fitted the stability model, examining the relationship between attachment dimensions and the exchange orientations across two time points. Second, we tested a causal model to assess whether attachment anxiety and avoidance at Time 1 would predict exchange orientation toward a romantic partner and an acquaintance, as well as to the calculative mindset at Time 2. Third, we analyzed a reversed causal model to explore whether exchange orientation toward a romantic partner and an acquaintance and a calculative mindset at Time 1 would be related to attachment insecurity at Time 2. Finally, we examined a reciprocal model to determine whether attachment insecurity at Time 1 influenced market mindset components at Time 2, and whether these components at Time 1, in turn, influenced attachment insecurity at Time 2. The study hypotheses, sample size, design, analyzes, and exclusions were preregistered at https://aspredicted.org/6443-8mf7.pdf.

Participants and procedure

As the first measurement point of the study, we used the data collected from participants in Study 1. One year later, we invited all participants from Study 1 who had passed the attention check questions and provided valid Prolific IDs ($n = 879$) to participate in a follow-up study. We planned to continue data collection until obtaining responses from at least 620 participants. Six hundred forty-eight U.K. participants responded and constituted our final sample (335 women, 309 men, 4 other/prefer not to say; median age = 44 years, $M = 46.30$, $SD = 13.21$). Sensitivity power analysis using Monte Carlo simulation revealed that our final sample size provided 80% power to detect an effect from T1 to T2 of β = .10, given our analytic approach and the conventional alpha level of .05.

After providing informed consent, participants submitted demographic information and completed the four blocks described below, presented in random order via Qualtrics. We used the same scales as in Study 1: (1) the short version of the Experience in Close Relationships Scale (Wei et al., 2007), measuring attachment anxiety and attachment avoidance, (2) the target-specific Exchange Orientation Scale with instructions asking participants to complete it based on their current or past romantic relationship (Gasiorowska et al., 2025), (3) the same scale completed with reference to an acquaintance or colleague (Gasiorowska et al., 2025), (4) the Calculative Mindset Scale (Kim et al., 2022)

Results and discussion

Table S4 in the Supplementary Materials presents descriptive statistics and correlations between all variables measured in the study. Attrition analysis (Supplementary Materials Table S5) revealed that attrition at Time 2 was not related to any of the T1 study variables, and dropout can be considered largely random.

In the first step, we tested whether the three indicators of exchange orientation (exchange orientation toward a romantic partner, exchange orientation toward an acquaintance, and calculative mindset) represent a single latent construct or a multidimensional construct with correlated factors, using Confirmatory Factor Analysis with Bayesian estimation in Mplus 8.10. The measurement model showed poor fit (95% Confidence Interval for the Difference Between the Observed and the χ^2 values did not include 0, 95% CI [207.00, 248.71], RMSEA = 0.197, 90% CI [0.19, 0.20], CFI = 0.77, TLI = 0.61), suggesting that the indicators did not converge on a common latent dimension. However, given the poor model fit, these results indicate that the three measures may not represent a single underlying psychological construct. Therefore, in Study 1, we analyzed them as separate but correlated dependent variables.

To test our research hypotheses, we used path analysis with Bayesian estimation. We tested four structural models: (1) Stability, (2) Causal, (3) Reversed Causal, and (4) Reciprocal, each assessing directional relationships between attachment insecurities, exchange orientation toward a romantic partner, an acquaintance, and a calculative mindset across two time points.

The stability model, assuming only autoregressive paths across time points and correlations for variables within the same datapoint, showed an acceptable fit in terms of some but not all indices; 95% CI for χ^2 [20.75, 82.40], RMSEA = 0.063, 90% CI [0.05, 0.07], CFI = 0.97, TLI = 0.94, DIC = 15385.52, BIC = 15586.48). We found strong autoregressive paths for attachment anxiety and attachment avoidance from Time 1 to Time 2, indicating high temporal consistency. The calculative mindset also showed strong longitudinal stability. In contrast, exchange orientation—toward both a romantic partner and an acquaintance—exhibited weaker stability over time (Table 2).

Next, we estimated the causal model by adding paths from the attachment dimensions at T1 to the exchange orientation dimensions at T2. This model showed a slightly better fit than the stability model, 95% CI for χ^2 [10.20, 67.60], RMSEA = 0.062, 90% CI [0.05, 0.07], CFI = 0.98, TLI = 0.94, DIC = 15375.19, BIC = 15606.37. Attachment anxiety and attachment avoidance at T1 were positively related to exchange orientation toward a romantic partner at T2, but not toward an acquaintance at T2. Additionally, attachment anxiety at T1 (but not avoidance) was positively related to a calculative mindset at T2.

The reversed causation model included paths from exchange orientation dimensions in T1 to attachment dimensions at T2. This model showed somewhat weaker fit indices than both stability and causal models, 95% CI for χ^2 [25.66, 83.16], RMSEA = .073, 90% CI [.06, .08], CFI = .97, TLI = .92, DIC = 15385.52, BIC = 15586.48. Importantly, neither component of the exchange orientation at Time 1 was related to attachment anxiety or avoidance at T2.

Finally, the reciprocal model, including both causal and reverse-causal paths, showed fit similar to the reverse-causal model, 95% CI for χ^2 [11.01, 66.19], RMSEA = 0.075, 90% CI [0.06, 0.09], CFI = 0.98, TLI = 0.92, DIC = 15380.97, BIC = 15641.04. This model showed that attachment anxiety and attachment avoidance at T1 were positively related to exchange orientation toward a romantic partner and calculative mindset at T2. However, neither exchange orientations nor a calculative mindset at T1 was associated with attachment dimensions at T2. Again, the reversed paths were not significant, as the 95% credible intervals included 0.

Table 2. Relationship between attachment insecurity and exchange orientation across stability, causal, reversed causal, and reciprocal models (Study 2).

Models	β	Posterior *SD*	95%CI
Stability model			
Anx T1 → Anx T2	0.69	0.03	[0.64, 0.74]
Avo T1 → Avo T2	0.64	0.03	[0.59, 0.70]
CM T1→ CM T2	0.53	0.03	[0.47, 0.59]
EO-R T1 → EO-R T2	0.50	0.03	[0.44, 0.57]
EO-A1 → EO-A2	0.42	0.03	[0.35, 0.49]
Causal Model			
Anx T1 → CM2	0.07	0.03	[0.005, 0.14]
Avo T1→ CM2	0.04	0.03	[−0.03, 0.10]
Anx T1 → EO-R T2	0.07	0.03	[0.005, 0.14]
Avo T1→ EO-R T2	0.09	0.03	[0.03, 0.16]
Anx T1 → EO-A T2	0.001	0.04	[−0.07, 0.08]
Avo T1 → EO-A T2	0.04	0.04	[−0.03, 0.11]
Reversed Causal Model			
CM T1 → Anx T2	0.03	0.03	[−0.03, 0.09]
CM T1 → Avo T2	−0.02	0.03	[−0.09, 0.04]
EO-R T1 → Anx T2	0.03	0.03	[−0.02, 0.09]
EO-R T1 → Avo T2	0.03	0.03	[−0.04, 0.09]
EO-A T1 → Anx T2	−0.03	0.03	[−0.09, 0.03]
EO-A T1 → Avo T2	0.006	0.03	[−0.06, 0.06]
Reciprocal Model			
Anx T1 → CM T2	0.06	0.03	[0.001, 0.13]
Avo T1 → CM T2	0.04	0.03	[−0.03, 0.11]
CM T1→ Anx T2	0.03	0.03	[−0.03, 0.09]
CM T1→ Avo T2	−0.02	0.03	[−0.08, 0.04]
Anx T1 → EO-R T2	0.07	0.03	[0.000, 0.14]
Avo T1 → EO-R T2	0.09	0.03	[0.02, 0.16]
EO-R T1 → Anx T2	0.03	0.03	[−0.03, 0.10]
EO-R T1 → Avo T2	0.03	0.03	[−0.04, 0.09]
Anx T1 → EO-A T2	0.003	0.04	[−0.07, 0.07]
Avo T1 → EO-A T2	0.04	0.04	[−0.04, 0.11]
EO-A T1 → Anx T2	−0.03	0.03	[−0.09, 0.02]
EO-A T1 → Avo T2	0.005	0.03	[−0.05, 0.07]

Note. EO-R: Exchange orientation toward a romantic partner; EO-A: Exchange orientation toward an acquaintance; Anx: Attachment anxiety; Avo: Attachment avoidance; CM: Calculative mindset; T1 = Time 1; T2 = Time 2.

In sum, as we expected, the longitudinal study showed that the causal model provided a better fit than the stability, reversed, and bidirectional models. In Study 2, we demonstrated that both high attachment anxiety and avoidance may have a causal effect on exchange orientation toward a romantic partner, with attachment anxiety positively predicting a calculative mindset. In contrast, the reversed and bidirectional models demonstrated poorer fit, indicating that while high attachment insecurities can predict exchange orientation, exchange orientation does not appear to predict attachment insecurities. Therefore, high attachment anxiety and avoidance serve as antecedents rather than consequences of exchange-oriented relationship dynamics.

Study 3

Up to this point, we provided evidence for the link between two dimensions of attachment insecurity,

namely anxiety and avoidance, and components of exchange orientation, especially toward a close person. In Study 3, we examined the distinct pathways through which high attachment anxiety and avoidance lead to exchange-oriented approaches to relationships. Based on theoretical considerations, we proposed that these two forms of attachment insecurity operate through different compensatory mechanisms. For individuals with high attachment anxiety, exchange orientation may provide the structure and predictability needed to manage relational uncertainty. For individuals with high attachment avoidance, exchange orientation may preserve the autonomy and control threatened by intimate relationships. Therefore, we tested two specific hypotheses:

1. The relationship between attachment anxiety and exchange orientation would be mediated by the need for cognitive closure, reflecting the desire for structure and predictability to compensate for relational uncertainty in individuals with high attachment anxiety;
2. The relationship between attachment avoidance and exchange orientation would be mediated by the desire for control, reflecting the need to maintain agency, autonomy, and control in the face of intimacy's threats to independence in individuals with high attachment avoidance.

Moreover, both attachment insecurity and components of the exchange orientation may be sensitive to cultural context (Bresnahan et al., 2004; Keller, 2013; Miller et al., 2014; Sakman & Sümer, 2024). Therefore, to provide another robustness check for our findings, we conducted Study 3 in the South African and UK samples. The study hypotheses, sample size, design, analyzes, and exclusions were preregistered at https://aspredicted.org/vd4q-922x.pdf.

Participants and procedure

We conducted a Monte Carlo power simulation for the indirect effect, assuming that the correlations among the independent variable, mediator, and dependent variable were approximately $r = 0.20$ (Schoemann et al., 2017). The a priori power analysis indicated that a sample of $n = 480$ participants would be sufficient to detect such an effect. As we expected some exclusions due to failed attention checks, we targeted a sample size of 500 participants per country (the UK and South Africa).

A total of 1,002 participants from the UK and South Africa with experience in current or previous romantic relationships were recruited via Prolific Academic (Palan & Schitter, 2018). Two hundred twenty-six participants were excluded because they failed at least one of three attention check questions. The first check, placed in the demographic section, asked participants to enter the current date. The other two were embedded within the main scales and instructed participants to select a specific response option (e.g., "Please choose 'Strongly Agree' for this item"). After excluding these participants from the analysis, the final sample included $N = 776$ participants $N = 348$ in in South Africa (165 men, 183 women; median age = 32 years, $M = 34.70$, $SD = 12.00$) and $N = 428$ in the UK (208 men, 216 women, 4 other/prefer not to say; median age = 45 years, $M = 45.20$, $SD = 13.70$)

After providing informed consent, participants completed demographic questions followed by six blocks of measures presented in random order via Qualtrics in UK and South Africa. As in studies 1 and 2, our dependent variables are measured with (1) the target-specific Exchange Orientation (ECO) Scale, with instructions to respond based on their current or past romantic relationship, (2) the Calculative Mindset Scale, (3) the same ECO Scale completed with reference to an acquaintance or colleague. Moreover, we measured our mediators with the short version of the Need for Cognitive Closure Scale (Roets & Van Hiel, 2011; Webster & Kruglanski, 1994), consisting of 15 items measuring need for order, predictability, decisiveness, avoidance of ambiguity, and closed-mindedness and the Desirability of Control Scale, a 20-item measure developed by Burger and Cooper (1979). Responses were given on a seven-point Likert scale (1 = "The statement does not apply to me at all" to 7 = "The statement always applies to me"). Finally, in this study we measured our independent variable with the long version of Experiences in Close Relationships Scale, a 36-item measure of attachment anxiety and attachment avoidance (Fraley et al., 2000).

Results and discussion

We conducted a Bayesian multiple mediation model using Mplus 8.10. We tested a model using attachment anxiety and avoidance as independent variables, three components of the exchange orientation (exchange orientation toward a romantic partner, exchange orientation toward an acquaintance, and calculative mindset) as dependent variables, and the desire for control and the need for cognitive closure as parallel mediators. We estimated total, direct, and indirect

effects using a Bayesian estimation and credibility intervals.

The model tested in the merged sample was well fitted to the data in the light of all indices, 95% CI for χ^2 [−27.59, 13.57], RMSEA = 0.0, 90% CI [0.00, 0.08], CFI = 1.00, TLI = 1.00 (Table 3).

We found that the total effect of attachment anxiety on three aspects of the exchange orientation was positive. Still, it was weaker for the exchange orientation toward an acquaintance than for the exchange orientation toward a close person and for the calculative mindset. Moreover, the total effect of attachment avoidance on exchange orientation toward a romantic partner and calculative mindset was also positive, but its total effect on exchange orientation toward an acquaintance was negative and weak. Additionally, attachment anxiety was positively related to the need for closure but not to the desire for control. In contrast, attachment avoidance was positively associated with desire for control but not with the need for closure. Both need for closure and desire for control were positively related to three components of the exchange orientation, with their relationships with the calculative mindset being stronger than with the exchange orientation toward a romantic partner or an acquaintance. After controlling for the mediators, the direct effects of attachment anxiety on calculative mindset and exchange orientation toward a romantic partner remained significant, while its relationship with exchange orientation toward an acquaintance became insignificant. Similarly, the direct effects of attachment avoidance on calculative mindset and exchange orientation toward a romantic partner remained significant, while its direct effect on exchange orientation toward an acquaintance remain negative and significant.

Table 3. Relationship between attachment anxiety and avoidance and aspects of exchange orientation via need for cognitive closure and desire for control (Study 3).

Effects	β	Posterior *SD*	95% CI
Structural paths			
Anx → NFC	0.27	0.04	[0.20, 0.34]
Anx → DFC	−0.08	0.04	[−0.16, −0.001]
Avo → NFC	−0.05	0.04	[−0.15, −0.001]
Avo → DFC	0.14	0.04	[0.06, 0.21]
NFC → CM	0.25	0.03	[0.19, 0.30]
DFC → CM	0.24	0.03	[0.19, 0.29]
NFC → EO-R	0.16	0.03	[0.09, 0.21]
DFC → EO-R	0.17	0.03	[0.12, 0.24]
NFC → EO-A	0.19	0.03	[0.13, 0.26]
DFC → EO-A	0.18	0.03	[0.12, 0.26]
Total Effects			
Anx → CM	0.30	0.04	[0.24, 0.37]
Avo→ CM	0.12	0.04	[0.05, 0.29]
Anx → EO-R	0.24	0.03	[0.17, 0.30]
Avo → EO-R	0.18	0.04	[0.12, 0.25]
Anx → EO-A	0.11	0.04	[0.04, 0.21]
Avo→ EO-A	−0.08	0.04	[−0.17, −0.02]
Direct effects			
Anx → CM	0.25	0.04	[0.19, 0.32]
Avo→ CM	0.11	0.04	[0.03, 0.17]
Anx → EO-R	0.21	0.04	[0.14, 0.28]
Avo → EO-R	0.17	0.04	[0.10, 0.24]
Anx → EO-A	0.08	0.04	[−0.02, 0.16]
Avo→ EO-A	−0.09	0.04	[−0.16, −0.01]
Covariances			
Anx ↔ Avo	0.56	0.02	[0.51, 0.61]
NFC ↔ DFC	0.04	0.04	[−0.03, 0.16]
EO-R ↔ EO-A	0.23	0.03	[0.17, 0.29]
EO-R ↔ CM	0.31	0.03	[0.24, 0.36]
EO-A ↔ CM	0.20	0.03	[0.14, 0.25]
Indirect effects			
Anx → NFC→ CM	0.07	0.01	[0.05, 0.09]
Anx → DFC→ CM	−0.02	0.01	[−0.03, −0.003]
Avo→ NFC→ CM	−0.01	0.01	[−0.04, 0.001]
Avo→ DFC→ CM	0.03	0.01	[0.01, 0.05]
Anx → NFC→ EO-R	0.04	0.01	[0.02, 0.06]
Anx → DFC→ EO-R	−0.01	0.01	[−0.03, −0.003]
Avo→ NFC→ EO-R	−0.01	0.01	[−0.02, 0.004]
Avo→ DFC→ EO-R	0.02	0.01	[0.01, 0.04]
Anx → NFC→ EO-A	0.05	0.01	[0.03, 0.07]
Anx → DFC→ EO-A	−0.01	0.01	[−0.03, 0.001]
Avo→ NFC→ EO-A	−0.01	0.01	[−0.02, 0.004]
Avo→ DFC→ EO-A	0.02	0.01	[0.01, 0.04]

Note. Anx: Attachment anxiety; Avo: Attachment avoidance; NFC: Need for cognitive closure; DFC: Desire for control; CM: Calculative mindset; EO-R: Exchange orientation toward a romantic partner; EO-A: Exchange orientation toward an acquaintance.

Most importantly, and in line with our preregistration, we found the indirect effects of attachment anxiety on the three components of exchange orientation via the need for cognitive closure, but not via the desire for control. Moreover, we found the indirect effects of attachment avoidance on the three components of exchange orientation via the desire for control, but not via the need for cognitive closure (Table 3).

In the second step, we conducted a multigroup analysis to test whether the effects we found in our main hypothesized model were robust across samples (see Supplementary Materials for details). An unconstrained model allowing free estimation of path coefficients across groups demonstrated a very good fit. A fully constrained model assuming equal path coefficients across groups yielded poorer fit, indicating potential cross-cultural differences. Therefore, we investigated the link between two dimensions of attachment insecurity and exchange orientations via need for closure and the desire for control separately for the UK and South Africa. In both countries, we found hypothesized indirect effects of attachment anxiety via need for cognitive closure on calculative mindset and exchange orientation toward a romantic partner, with the acquaintance effect significant only in the British sample. We also identified expected indirect effects of attachment avoidance on exchange orientation aspects via desire for control in both countries. However, some additional cultural differences emerged: the indirect effect of attachment anxiety on

exchange orientation via desire for control was significant only in the UK sample, while the indirect effect of attachment avoidance on exchange orientation through need for cognitive closure was significant only in the South African sample, suggesting additional culture-specific mechanisms in attachment-exchange orientation relationships (Table S7).

General discussion

This project examined a novel mechanism in the relationship between attachment insecurities and components of exchange orientation across three complementary studies employing cross-sectional, longitudinal, and mediational designs. We investigated whether and why attachment insecurities are positively associated with exchange-oriented relationship rules, particularly in contexts where communal norms are typically expected.

In Study 1, we demonstrated that both attachment anxiety and attachment avoidance were positively associated with exchange orientation toward a romantic partner and with a calculative mindset, whereas only attachment anxiety was positively associated with exchange orientation toward an acquaintance. These patterns remained robust after controlling for a broad set of personality traits, motivational variables, and value orientations, suggesting that the observed relationships cannot be reduced to general dispositional tendencies.

Building on these cross-sectional findings, Study 2 employed a one-year longitudinal design to examine the temporal ordering of attachment insecurity and exchange orientation. We found that attachment anxiety and avoidance exhibited high stability across time, while exchange orientation—particularly toward specific relationship targets—was less stable. Importantly, attachment insecurities at T1 predicted exchange orientation at T2, whereas the reversed paths were not supported. This pattern suggests that exchange orientation is more plausibly understood as a response to attachment insecurity rather than as its antecedent. Moreover, these links were strongest for exchange orientation toward the romantic partner, followed by a calculative mindset, whereas they were the weakest for the acquaintance.

In Study 3, we examined the psychological mechanisms underlying these associations and provided evidence for a dual-pathway model. Attachment anxiety was linked to exchange orientation via need for cognitive closure, whereas attachment avoidance was linked to exchange orientation via desire for control. These findings indicate that similar relational outcomes—greater reliance on exchange-oriented rules—can emerge through distinct regulatory processes depending on the nature of attachment-related threat.

Theoretical contribution

This research advances theory by moving beyond descriptive correlations to provide a process-oriented explanation for whether and why attachment insecurities lead to a preference for transactional relationship rules. We achieve this by proposing and validating a dual-pathway compensatory model, demonstrating how higher levels of attachment anxiety and avoidance channel individuals toward exchange orientation through distinct psychological routes rather than a single generalized mechanism.

First, our research theoretically bridges attachment theory with social exchange perspectives by showing how early relational experiences systematically influence preferences for different relationship operating principles. While Clark's (1987) communal-exchange distinction was initially described as situationally determined, later research also used a trait approach, measuring the levels of exchange and communal orientations (Clark & Mills, 2012; Mills & Clark, 1994). Moreover, recent research also proposed that people might have systematic biases toward exchange-oriented approaches even in contexts where communal norms would typically prevail (Gasiorowska et al., 2025; Gasiorowska & Zaleskiewicz, 2023b). The present research extends this work by identifying attachment insecurity as a source of such systematic biases. In doing so, we explain how attachment-related relational vulnerabilities shape preferences for transactional relationship rules through specific regulatory mechanisms, rather than through undifferentiated dispositional orientations.

Importantly, while attachment theory has traditionally focused on intimate relationships (Fraley & Shaver, 2000; Hazan et al., 1987; Hazan & Shaver, 1994), our findings demonstrate that attachment insecurities might systematically shape how individuals approach both close and distant relationships through the adoption of exchange-oriented frameworks. This extends attachment theory by showing that internal working models guide not only behaviors within close bonds, but also individuals' strategic choices about which relational rules to apply across social contexts. We further show that individuals high in attachment anxiety apply exchange norms broadly across relationship types, whereas individuals high in attachment avoidance apply them more selectively, primarily

toward romantic partners. These target-specific patterns indicate that different attachment insecurities give rise to different compensatory strategies rather than a uniform preference for exchange orientation.

A key theoretical contribution of this work is the identification of the psychological mechanisms underlying these patterns. We demonstrate that high attachment anxiety is linked to exchange orientation via the need for cognitive closure, whereas attachment avoidance operates via agency concerns. This distinction provides a mechanistic explanation for why similar relational outcomes emerge from qualitatively different attachment-related vulnerabilities. Exchange orientation serves two distinct regulatory functions: it provides structure and predictability that mitigate relational uncertainty for individuals high in attachment anxiety, and it preserves autonomy and control for individuals high in attachment avoidance. By identifying these mechanisms, we move beyond documenting associations to explaining the psychological processes through which attachment insecurity shapes relational strategies.

The longitudinal findings of Study 2 further strengthen this theoretical account by showing that attachment insecurities temporally precede the exchange orientation. This temporal ordering supports the interpretation of exchange orientation as a motivated response to relational insecurity rather than as a stable trait that shapes attachment itself. The differential longitudinal patterns suggest that compensatory processes may operate over different timeframes, with anxiety-related needs for structure showing greater persistence than avoidance-related concerns with autonomy.

Finally, by demonstrating cultural variation in the strength of these associations, particularly stronger anxiety–exchange orientation links in the individualistic UK context compared to the more communal South African context, we highlight how attachment-based strategies are culturally embedded. While attachment insecurity predicts exchange orientation across both samples, the form and strength of this strategy depend on cultural norms regarding independence, obligation, and relational expectations. This underscores that attachment-related vulnerabilities are universal, but their behavioral expressions are shaped by cultural context.

Why do patterns differ across relationship targets?

A key contribution of the present research is also the demonstration that attachment insecurity relates differently to exchange orientation depending on the relational target: attachment anxiety predicts exchange orientation toward both romantic partners and acquaintances, whereas attachment avoidance predicts it primarily toward romantic partners. These target-specific differences are theoretically meaningful and reflect how distinct attachment motivations interact with relational context.

Romantic partners represent primary attachment figures in adulthood and therefore strongly activate attachment-related concerns. For individuals high in attachment anxiety, close relationships heighten uncertainty about availability and responsiveness, intensifying the need for structure and predictability (Gasiorowska & Zaleskiewicz, 2021, 2023a, 2023b). In this context, the broad application of exchange norms might function as a hyperactivating regulatory strategy. Exchange relationships offer clear, rule-bound frameworks of reciprocity and accountability that reduce ambiguity, enable monitoring of relational equity, and may protect against perceived abandonment or exploitation by clarifying mutual obligations (Shaughnessy et al., 2023).

Importantly, this regulatory strategy is not limited to close relationships. Acquaintanceships, although low in intimacy, still involve uncertainty and evaluative ambiguity. Because exchange norms are socially normative and emotionally low-cost in such contexts, individuals high in attachment anxiety may generalize exchange-oriented strategies to these relationships as a way of maintaining structure and fairness across their broader social environment, particularly under conditions of perceived inequality (Cheng et al., 2024). This broad application is consistent with evidence that anxiously attached individuals seek connection across relational boundaries while simultaneously struggling with trust and emotional regulation (Arriaga et al., 2014; Feeney et al., 2008; Izhaki-Costi & Schul, 2011).

In contrast, for individuals high in attachment avoidance, exchange orientation appears to be a selective deactivating strategy, deployed primarily in contexts that pose a threat to autonomy. reserved primarily for the more threatening context of romantic intimacy. Romantic relationships inherently demand interdependence and communal responsiveness, which directly challenge avoidant individuals' core motivation to preserve autonomy and minimize vulnerability (Bartz & Lydon, 2008; Impett & Gordon, 2010). Imposing exchange norms on a romantic partner allows avoidant individuals to regulate closeness, maintain emotional boundaries, and assert control within a relationship context that would otherwise require dependence (Arriaga et al., 2014; Monin et al., 2010).

The absence of a positive association between attachment avoidance and exchange orientation toward acquaintances is equally informative. It does not indicate a preference for communality with strangers, but rather reflects strategic disengagement. Low-intimacy relationships do not strongly activate the attachment system and therefore do not threaten autonomy. As a result, avoidantly attached individuals may remain minimally invested in acquaintanceships, refraining from organizing these interactions through either exchange or communal norms unless a clear instrumental advantage is present (Mussel et al., 2023; Sun & Jakubiak, 2024).

Together, these findings provide further support for our dual-pathway compensatory model. The generalized need for cognitive closure associated with attachment anxiety explains the widespread search for structure through exchange norms across relationship types, whereas the targeted desire for control associated with attachment avoidance explains the selective use of exchange rules in intimacy-threatening contexts. Exchange orientation thus emerges not as a uniform relationship style, but as a flexible regulatory tool adapted to manage distinct attachment-related vulnerabilities.

Alternative mechanisms linking attachment insecurity and exchange orientation

While our findings support the proposed mediational pathways through need for cognitive closure and desire for control, several alternative mechanisms may also explain why attachment insecurities lead to exchange-orientation.

One such mechanism derives from risk regulation system theory, which posits that when individuals experience an approach–avoidance conflict, perceive threats to self-worth, and anticipate rejection, they may prefer exchange relationships over communal ones (Bartz & Lydon, 2008; Murray et al., 2006). From this perspective, exchange relationships serve a fundamentally protective function by reducing vulnerability in social interactions. Individuals high in both attachment anxiety and avoidance often struggle with giving and receiving help effectively, which may render communal relationships less rewarding or more threatening than exchange-based ones (Reizer & Mikulincer, 2007). Accordingly, individuals high in attachment anxiety may adopt exchange orientations as a protective response to anticipated rejection and self-worth threats, whereas individuals high in attachment avoidance may use exchange relationships to maintain emotional distance, preserve autonomy, and protect their sense of self (DeWall et al., 2011; Fraley & Shaver, 2000), while simultaneously enhancing feelings of competence and self-sufficiency (Gasiorowska & Zaleskiewicz, 2022, 2023b).

Another potential mechanism centers on trust deficits and emotion regulation difficulties characteristic of attachment insecurity. Communal relationships inherently require trust, as they involve providing support without immediate or equivalent reciprocation (Molm et al., 2012). However, individuals high in attachment insecurity tend to exhibit lower levels of interpersonal trust and show differences in oxytocin-related functioning (Caina et al., 2016; De Dreu, 2012; Rodriguez et al., 2015). Moreover, individuals high in attachment anxiety often experience difficulties regulating emotions when confronted with a partner's distress, whereas individuals high in attachment avoidance tend toward emotional disengagement or indifference (Monin et al., 2010). In this context, exchange relationships, with their explicit rules, limited emotional demands, and absence of one-sided caregiving, may feel safer, more predictable, and easier to manage (Gasiorowska & Zaleskiewicz, 2021, 2023a). Consistent with this interpretation, experimental research shows that priming an exchange mindset reduces emotional expression, increases interaction avoidance, and lowers perceived intimacy (Jiang et al., 2014).

An additional pathway involves self-concept regulation. Exchange orientation has been positively associated with self-interest and self-enhancement tendencies (Gasiorowska et al., 2025). Given that individuals with attachment insecurities often struggle with maintaining stable and positive self-views (Li & Zheng, 2014; Park et al., 2004), exchange orientation may function as a coping strategy for managing self-concept uncertainty. For individuals with high attachment anxiety, exchange relationships may provide clearer frameworks for seeking help and assessing costs and benefits, thereby clarifying responsibilities and reducing uncertainty about their worth and contributions. Exchange orientation may also compensate for unmet needs for unity and connection among anxiously attached individuals who desire closeness but struggle to provide or request support effectively within communal frameworks (Bartz & Lydon, 2008).

Because our findings differ across relationship targets, additional mechanisms may operate in different relational contexts. In acquaintanceships, individuals with attachment insecurity may face challenges related to social integration and higher relationship turnover (Haydon et al., 2020). Individuals high in attachment anxiety may be driven by egocentric motives in these

relationships (Reizer & Mikulincer, 2007), while simultaneously seeking harmony to satisfy interdependence needs (Sakman & Sümer, 2024; Zhu et al., 2016), a combination that may lead to frustration or hostility when expectations are unmet (Feeney et al., 2008). Individuals high in attachment avoidance may engage socially but apply exchange rules selectively to maintain control or power, particularly when relationships begin to demand more intimacy than they are willing to provide (Arriaga et al., 2014). In such cases, exchange orientation may be used strategically to pursue autonomy or efficiency rather than reciprocal benefit (Calkins et al., 2023; Overall, 2019).

Finally, differential effects on memory and cognitive processing for individuals with high attachment insecurity may contribute to exchange orientation adoption. Exchange relationships are typically framed by narratives of proportional giving and receiving (Wang et al., 2022). Individuals with high attachment anxiety may hyperactivate and vividly recall these narratives, whereas those with attachment avoidance may suppress them (Lau-Zhu et al., 2023). This differential processing suggests that anxiously attached individuals may develop stronger calculative mindsets to manage future interactions by drawing on enhanced memory for past exchanges, whereas avoidantly attached individuals may apply calculative thinking more selectively and contextually, in response to autonomy threats or opportunities for personal gain.

Limitations and future studies

Although the current study is the first to examine the relationship between attachment insecurity and exchange orientation using both correlational and longitudinal designs, several limitations should be acknowledged, which may serve as avenues for future research.

A primary limitation is our exclusive reliance on self-report measures to assess both attachment orientations and exchange behaviors. While self-report scales provide valuable insights into individuals' perceptions and tendencies, they may not fully capture how attachment insecurities manifest in actual relationship behaviors. Future studies should use methods like observing real couples, coding their behavior, or using daily diary apps to see how these exchange orientations work in everyday life. Laboratory-based interaction tasks where participants engage in actual relationship-related behaviors would provide more ecologically valid evidence for the proposed effects.

Our focus on only two specific relationship types, romantic partners and acquaintances, plus a calculative mindset as an indicator of a more general exchange orientation, represents a significant limitation given the diversity of social relationships individuals navigate. The psychological needs met by an exchange orientation likely vary depending on the relationship type and the specific person involved (Gasiorowska et al., 2025). Future research should therefore adopt a broader approach, examining exchange orientations across multiple relationship types, including family members, close friends, workplace colleagues, service providers, and strangers. Studying both partners in a couple would show how their attachment insecurities and exchange orientations interact to affect their relationship.

Although our longitudinal design represents an advance over purely cross-sectional research, we cannot definitively establish causal relationships between attachment insecurity and exchange orientation. To test causality, future research could temporarily heighten feelings of attachment security or insecurity (Gillath & Karantzas, 2019), and then observe if people act in more exchange-oriented ways during a social task. While Study 3 confirmed our primary hypotheses regarding the unique mediational mechanisms universally across both UK and South African samples, with higher levels of attachment anxiety operating through need for cognitive closure and higher levels of attachment avoidance operating through desire for control. We also observed additional cultural differences that warrant further investigation. Specifically, we identified culture-specific pathways not included in our original theoretical model: the indirect effect of attachment anxiety through desire for control was significant only in the UK sample, whereas the indirect effect of attachment avoidance through need for cognitive closure was significant only in the South African sample. However, we did not directly measure country-level cultural factors that might explain these additional differences, making it impossible to determine whether these patterns reflect genuine cultural moderation or methodological artifacts of studying only two countries. More importantly, definitively establishing cultural moderation effects requires large-scale cross-cultural research spanning multiple countries with varying cultural profiles, rather than comparisons between only two nations. Moreover, individualistic values show stronger relationships with both exchange orientation (Bresnahan et al., 2004; Miller et al., 2014) and attachment avoidance (Sakman & Sümer, 2024; Sümer & Yetkili, 2018). Future cross-cultural research should examine how contextual factors like economic development, social mobility, and cultural norms moderate

the link between attachment insecurity and relational strategy.

The moderate effect sizes observed in our studies suggest that additional unmeasured mechanisms may contribute to the relationship between attachment insecurity and exchange orientation. Future research should investigate alternative mediators, including trust levels, emotional regulation capacity, and risk perception, as potential pathways linking attachment insecurity to exchange-oriented relationship approaches. Examining these mechanisms alongside our proposed mediators would provide a more comprehensive understanding of the psychological processes involved.

Despite these limitations, our findings offer valuable insights into the relationship between attachment insecurity and exchange relationship orientations through both correlational and longitudinal approaches, establishing a foundation for future research to build upon with more sophisticated methodological approaches.

Declaration of generative AI and AI-Assisted technologies in the writing process

During the preparation of this paper, the authors used Instatext, Grammarly 1.135.2.0, and Claude Sonnet 4 for proofreading and grammar purposes. After using these tools/services, the authors reviewed and edited the content. The authors take full responsibility for said content.

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Article

From Insecurity to Instrumentality: Exchange Orientation as a Relational Mechanism Linking Attachment to Interpersonal Objectification

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Attachment_EO_SOM_BJSP.docx	Supplementary Material for Review	40.0 KB	Page 44

From Insecurity to Instrumentality: Exchange Orientation as a Relational Mechanism Linking Attachment to Interpersonal Objectification

Abstract

Although the maladaptive consequences of attachment insecurity are well documented, little is known about why individuals with attachment insecurities tend to objectify others. We propose that an exchange orientation toward romantic partners serves as a key psychological mechanism underlying this tendency, and we test this proposition across three studies. In a quasi-longitudinal Study 1 (N = 560, UK), exchange orientation mediated the relationships between attachment anxiety and avoidance, and interpersonal objectification. In a preregistered experimental Study 2 (N = 633, US), activating attachment anxiety and avoidance patterns (vs. a control condition) increased interpersonal objectification via heightened exchange orientation. In a preregistered experimental Study 3 (N = 475, Canada), using a mediation-by-moderation design, we demonstrate that activating an exchange orientation amplifies the link between attachment insecurity and objectification. Specifically, attachment anxiety predicted objectification only in the exchange-orientation condition, not in the control condition. Furthermore, the positive relationship between attachment avoidance and objectification was more than twice as strong in the exchange-orientation condition than in the control condition. Our findings reveal that adopting an exchange orientation in romantic relationships, while potentially serving as a coping strategy for attachment insecurity, has significant negative interpersonal consequences, fostering a tendency to objectify others.

Keywords: attachment anxiety, attachment avoidance, exchange orientation, objectification, close relationship

Introduction

Interpersonal objectification refers to perceiving and treating others primarily as means to one's own ends while disregarding their autonomy, needs, and inner experiences (Haslam et al., 2008; LaCroix & Pratto, 2015; Nussbaum, 1995). This instrumental and dehumanizing orientation, characterized by diminished prosocial behavior and increased exploitative tendencies (Cheng et al., 2024), and often arising from an exchange-based approach to relationships (Wang et al., 2022), is associated with negative interpersonal outcomes such as increased aggression (Poon et al., 2020). Despite its interpersonal costs, little is known about the underlying dispositional and relational processes that foster a chronic tendency to objectify others in everyday social interactions.

Although several studies have explored the antecedents of interpersonal objectification—such as narcissism (Lachowicz-Tabaczek et al., 2021), interpersonal insecurity (Capozza et al., 2022), material values (Ozimek et al., 2017), and lower gratitude (Shi et al., 2023)—research on interpersonal objectification remains limited, and most studies have focused on the consequences of sexual objectification (Basson, 2019; Jiao et al., 2022; Moradi & Huang, 2008; Wollast et al., 2018). Importantly, although recent work has begun to link attachment insecurity—particularly attachment avoidance—to interpersonal objectification via socio-cognitive mechanisms such as reduced Theory of Mind and empathy (Ecer et al., 2026), the relational rules and motivational frameworks through which attachment schemas translate into instrumental perception remain largely unexplored.

Building on this emerging evidence, the present research advances the literature in two ways. First, we identify attachment avoidance as a dispositional predictor of interpersonal objectification. Second, we propose a novel relational pathway: exchange orientation toward romantic partners. By shifting the focus from deficits in social cognition to the relational logics that structure social interaction, our approach integrates attachment theory with relational model

theory and the market-mindset literature, offering a more comprehensive account of how attachment avoidance fosters a chronic tendency to evaluate others in instrumental terms.

Adult Attachment Insecurities and Objectification

Attachment theory provides a foundational framework for understanding how early experiences with caregivers shape enduring internal working models of the self and others, which guide interpersonal functioning across the lifespan (Bowlby, 1969, 1982; Collins & Feeney, 2004; Mikulincer & Shaver, 2017). In adulthood, these patterns consolidate along two primary dimensions of insecurity: attachment anxiety and attachment avoidance (Fraley et al., 2000; Hazan & Shaver, 1994).

These dimensions reflect deep-seated concerns about the availability and responsiveness of close others and are associated with distinct cognitive, emotional, and behavioral strategies for regulating closeness (Ainsworth et al., 2015; Fraley, 2019). Individuals with attachment anxiety experience a profound approach–avoidance conflict in relationships (Bartz & Lydon, 2006). Their internal working models are characterized by a negative view of the self and a positive, yet often idealized, view of others (Griffin & Bartholomew, 1994). Moreover, such people are hypervigilant to relational threats and fear abandonment, leading them to hyperactivate their attachment system. Their core strategy involves intensifying emotional expression, seeking excessive reassurance, and clinging to others to maintain proximity and gain validation (Mikulincer & Shaver, 2017). This chronic state of arousal and dependence not only impairs emotion regulation but also sustains a persistent focus on relational evaluation.

Attachment avoidance, in contrast, is defined by a positive (or defensive) view of the self and a fundamentally negative, distrustful view of others (Griffin & Bartholomew, 1994). To preempt vulnerability and rejection, these individuals deactivate their attachment system. Their primary strategies involve prioritizing self-reliance, suppressing emotional needs, and

cognitively and behaviorally distancing themselves from closeness and interdependence (Mikulincer & Shaver, 2017). During interactions, they tend to dismiss others' needs and struggle with perspective-taking (Henry et al., 2022). Moreover, whereas anxious individuals remain strongly oriented toward relational closeness despite regulatory difficulties, avoidant individuals defensively downregulate the importance of others' internal states and relational needs (Mikulincer et al., 2001). This asymmetry in motivational architecture has important implications for how others are perceived and evaluated.

Critically, these insecure working models are not confined to early or romantic relationships; they are likely to generalize across social contexts, shaping interactions with friends, acquaintances, and even strangers (Bohn et al., 2023; Gasiorowska et al., 2026; Shaver & Hazan, 1988). This schema-transfer process means that the core fears and defensive strategies of individuals with attachment insecurities systematically bias how they perceive, interpret, and engage in social exchanges. These relational patterns are characterized by lower trust, greater defensiveness, and socio-emotional deficits (Nijssens et al., 2020) raise a critical question: do insecure attachment schemas also predispose individuals to perceive and treat others in instrumental terms?

Importantly, the motivational architecture of attachment anxiety and avoidance suggests different implications for interpersonal objectification. Individuals high in attachment anxiety remain strongly oriented toward relational closeness and validation. Although their hyperactivation strategies involve emotional dysregulation and heightened dependency, they do not entail a systematic dismissal of others' psychological reality. On the contrary, individuals high in attachment anxiety are often intensely focused on others' reactions and approval (Gasiorowska et al., 2022, 2026), which may even heighten sensitivity to others' evaluations rather than reduce recognition of their subjectivity.

In contrast, attachment avoidance is characterized by deactivation strategies that suppress dependency needs, reduce trust, and downregulate attention to others' internal states. Individuals high in attachment avoidance tend to defensively minimize the importance of others' emotions and perspectives, prioritizing self-reliance and emotional distance. Such chronic distancing is theoretically aligned with instrumental perception: when others are experienced as unreliable or threatening, they may be cognitively reframed as functional entities evaluated in terms of personal utility rather than as autonomous agents (Ecer et al., 2026). Therefore, attachment avoidance provides a coherent psychological basis for interpersonal objectification, whereas attachment anxiety—despite its relational dysfunctions—does not inherently imply reduced recognition of others' subjectivity. Accordingly, we expect attachment avoidance to show a stronger, more consistent positive association with interpersonal objectification, whereas the link with attachment anxiety should be weaker or absent.

Exchange Orientation Toward Romantic Partners as a Mediator

To explain how attachment insecurities translate into interpersonal objectification, it is necessary to identify a relational mechanism that transforms internal working models into everyday interactional rules. We propose that exchange orientation toward a romantic partner serves this psychological mechanism.

Exchange orientation reflects the application of proportionality norms, monitoring of inputs and outcomes, and attention to balanced reciprocity within a relationship (Clark & Mills, 1979, 2012; Mills & Clark, 2013). Unlike communal norms, which prioritize responsiveness to the partner's needs without tracking returns, exchange norms focus on equity, calculability, and self-protection (Clark & Mills, 1979, 2012; Mills & Clark, 2013). Although exchange orientation is typically expected to emerge in relationships with strangers, it also occurs within close relationships. For example, individuals may engage in cost–benefit calculations even within

committed relationships, particularly when relational uncertainty or vulnerability is salient (Halawa & Olcoń-Kubicka, 2018). Supporting this notion, longitudinal research among couples shows that both attachment anxiety and attachment avoidance are positively associated with exchange orientation over time. Individuals high in attachment anxiety perceive their partners as displaying less communal orientation, whereas individuals high in attachment avoidance perceive their partners as using more exchange-oriented strategies in the relationship (Clark et al., 2010).

Building on recent work, exchange orientation can be understood not merely as a relational preference but as a compensatory regulatory strategy (Gasiorowska & Ecer, 2026). Specifically, exchange orientation provides psychological structure and predictability for anxiously attached individuals (via need for cognitive closure) and preserves autonomy and control for avoidantly attached individuals (via desire for control). Thus, although both dimensions of attachment insecurity may give rise to exchange orientation, they do so for fundamentally different reasons.

Finally, although exchange orientation may regulate attachment-related vulnerabilities, it simultaneously restructures how others are perceived. When relational interactions are organized around proportional returns and cost–benefit evaluation, partners are increasingly construed in terms of what they provide rather than who they are (Wang et al., 2022). This shift from need-responsiveness to utility-based evaluation creates a cognitive context in which instrumental perception becomes more likely. Indeed, according to the Social Interaction Model of Objectification (Gervais et al., 2020), men who "keep score" and engage in cost–benefit analyses are more likely to objectify others. In the present research, we extend this logic beyond romantic relationships and propose that exchange orientation in close relationships can serve as a mechanism linking attachment insecurities to broader interpersonal objectification. More

precisely, we propose that attachment avoidance, characterized by deactivation and distrust, motivates the adoption of transactional norms to limit vulnerability and preserve autonomy. These norms, in turn, normalize an evaluative, outcome-focused construal of people in general, thereby increasing the likelihood of perceiving them as a means to personal ends. Attachment anxiety may also promote exchange orientation as a strategy to reduce relational ambiguity; however, because anxious individuals remain strongly oriented toward closeness and validation, the downstream shift toward objectification is expected to be weaker.

More broadly, the present research contributes to the literature by shifting the focus from identifying who objectifies others to understanding why individuals adopt relational rules that increase the likelihood of objectification. Whereas prior work has emphasized deficits in socio-cognitive capacities—such as reduced Theory of Mind or empathy—as proximal drivers of objectification, we propose that objectification can also emerge from the strategic adoption of relational frameworks that prioritize calculability, reciprocity, and self-protection. In doing so, we advance a process-level account in which attachment insecurity shapes not only how individuals perceive others, but also the relational norms they use to structure social interactions. This perspective highlights exchange orientation as a key mechanism linking relational insecurity to instrumental social perception, thereby integrating attachment theory with broader models of relational regulation and social cognition.

Overview of the studies

Across three studies, we combine quasi-longitudinal and experimental approaches to test a process-level account linking attachment insecurities, exchange orientation, and interpersonal objectification. These studies were conducted in the United Kingdom (UK), the United States (US), and Canada, enhancing the generalizability of our findings across cultural contexts. Study 1 employed a quasi-longitudinal design to examine whether the relationship between attachment

insecurities and interpersonal objectification was mediated by exchange orientation toward romantic partners. To rule out alternative explanations, we additionally included Dark Triad traits as a covariate. In a preregistered Study 2, we experimentally activated anxious and avoidant attachment working models (vs. a control condition) and tested whether these manipulations influence interpersonal objectification via heightened exchange orientation toward romantic partners. In a preregistered experimental Study 3, we manipulated exchange orientation toward romantic partners (vs. a control condition) using a moderation-of-process design (Ge, 2023) to examine how activating a transactional relational framework shapes the link between attachment insecurities and interpersonal objectification.

Transparency statement

All studies were conducted in accordance with the Declaration of Helsinki, APA ethical standards, and institutional guidelines, with approval from the Ethics Committee for Research in Humans at [blinded] under the decision number [blinded]. Across studies, all participants provided informed consent within the survey system. We report how we determined our sample size, data exclusions (if any), manipulations, and all measures, and we follow Journal Article Reporting Standards (Kazak, 2018). Hypotheses, designs, sample sizes, exclusion criteria, and analyses for Studies 2 and 3 were preregistered. All data, analysis code, and preregistrations are available at https://researchbox.org/6095?PEER_REVIEW_passcode=EUBOXK. Data analysis was conducted using JASP 0.96.0, Jamovi 2.6.23 and Mplus 8.10.

Study 1

In Study 1, we employed a quasi-longitudinal design to examine whether attachment insecurities, measured at a single time point, would predict subsequent interpersonal objectification, assessed six months later, and whether this relationship would be mediated by exchange orientation toward romantic partners (measured alongside attachment dimensions). As

a robustness check, we tested whether the proposed indirect effects remained significant after controlling for Dark Triad traits. This step was critical because socially aversive traits—such as narcissism, Machiavellianism, and psychopathy—are independently linked to instrumental interpersonal styles, reduced empathy, and higher objectification (Shukla & Upadhyay, 2025; Wang et al., 2022). Moreover, Dark Triad traits overlap with attachment insecurity (Brewer et al., 2018) and may also predict greater endorsement of exchange norms (Wang et al., 2022). Thus, controlling for Dark Triad traits allowed us to determine whether the proposed attachment–exchange–objectification pathway reflects a distinct relational process rather than a broader antisocial, exploitative, or manipulative disposition.

Participants and Procedure

We calculated our sample size by assuming a significance of .05, power of .95, and effect size equivalent to $r = .20$, i.e., the "typical effect" in psychology (Funder & Ozer, 2019; Gignac & Szodorai, 2016). Under these assumptions, a linear regression would require a sample of $n = 314$ participants. As we aimed to test indirect effects involving exchange orientation toward a close other, and to account for potential attrition across the two study waves, we aimed to triple this number and recruit at least 942 participants.

The study comprised two phases. In the first phase, 1,055 UK participants from Prolific Academic (Palan & Schitter, 2018) completed an online survey via Qualtrics. Participants who failed at least one of the three attention checks ($n = 174$) were excluded. The remaining group was invited six months later to participate in a second part of the study, and 589 individuals responded within the next 4 days. At this point, 29 participants were excluded: 26 for failing at least one of the two attention-check questions, and 3 for having participant IDs that did not match those collected in the first phase. The final sample included $N = 560$ participants (276 women, 280 men, 4 other/not provided; age Mdn = 44, $M = 46.52$, $SD = 20.15$).

After providing informed consent, participants completed demographic questions followed by thirteen blocks of measures presented in random order: (1) the short version of the Experience in Close Relationships Scale (Wei et al., 2007), consisting of 12 items, to measure attachment anxiety (e.g., "I get frustrated if romantic partners are not available when I need them,"; α = .78; M = 3.15; SD = 1.23) and attachment avoidance (e.g., "I am nervous when partners get too close to me,"; α = .84; M = 2.42; SD = 1.12). Responses were recorded on a seven-point Likert scale (from 1 = "strongly disagree" to 7 = "strongly agree"); (2) the target-specific ECO Scale with instructions asking participants to complete it based on their current or past romantic relationship (Gasiorowska et al., 2025) to measure exchange orientation toward a romantic partner/spouse (e.g., "When starting a joint activity with this person, I would like to know how I would benefit,"; α = .90; M = 2.44; SD = 0.87). Responses were recorded on a five-point Likert scale (from 1 = "strongly disagree" to 5 = "strongly agree"); (3) the Dirty Dozen Questionnaire (Jonason & Webster, 2010), with 12 items measuring Machiavellianism ("I tend to manipulate others to get my way," ; α = .85; M = 2.75; SD = 1.60), psychopathy ("I tend to lack remorse,";α = .74; M = 3.08; SD = 1.44) , and narcissism ("I tend to want others to admire me, "; α = .82; M = 3.13; SD = 1.58). Responses were recorded on a nine-point Likert scale (from 1 = "extremely disagree" to 9 = "extremely agree"). After 6 months, participants completed the objectification scale (Gruenfeld et al., 2008), adapted to measure general interpersonal objectification (Lachowicz-Tabaczek et al., 2021) with items such as "I think more about what other people can do for me than what I can do for them." ; α = .85; M = 2.49; SD = 0.94). Responses were recorded on a seven-point Likert scale (from 1 = "strongly disagree" to 7 = "strongly agree").

Results and Discussion

To test our first hypothesis, we tested a path model in which attachment anxiety and avoidance were entered as predictors, exchange orientation toward romantic partners was included as a mediator, and interpersonal objectification served as the dependent variable using JASP. In an additional model, we controlled for Dark Triad traits (see Table S1 in the Supplementary Online Materials, SOM). In both models, we estimated total, direct, and indirect effects with 95% confidence intervals using bootstrapping with 10,000 samples. All reported estimates are based on standardized values.

We found the total effects of both attachment anxiety and avoidance on interpersonal objectification (Table 1). Moreover, both attachment anxiety and avoidance were positively associated with exchange orientation toward romantic partners, with a stronger effect observed for attachment avoidance. Additionally, exchange orientation toward romantic partners was positively linked with interpersonal objectification. When controlling for the mediator, the direct effect of attachment insecurities on interpersonal objectification remained significant. The indirect effects of both attachment avoidance and anxiety on the interpersonal objectification through exchange orientation toward romantic partners were significant (Table 1). In a second model, after including Dark Triad traits as covariates, these indirect effects remained significant (Table S1 in the SOM).

Table 1.

The relationship between attachment insecurities and interpersonal objectification via exchange orientation toward a romantic partner (Study 1)

Paths	β	*SE*	95% CI	*z*	*p*
Structural paths					
Anx→ EO-R	.18	.04	[.10, .26]	4.36	.001
Avo → EO-R	.25	.04	[.17, .33]	6.06	.001

EO-R→ Obj	.23	.04	[.15, .31]	5.64	.001
Direct Effects					
Anx → Obj	.10	.04	[.02, .18]	2.47	.014
Avo → Obj	.10	.04	[.01, .18]	2.33	.020
Total Effects					
Anx → Obj	.14	.04	[.06, .22]	3.45	.001
Avo → Obj	.15	.04	[.07, .23]	3.74	.001
Indirect Effects					
Anx→ EO-R → Obj	.04	.01	[.02, .06]	3.45	.001
Avo→ EO-R → Obj	.06	.01	[.03, .08]	4.13	.001

Note: Anx = Attachment Anxiety, Avo = Attachment avoidance, EO-R = Exchange orientation toward a romantic partner, Obj = Interpersonal objectification

Taken together, our findings suggest that individuals with attachment insecurities tend to objectify others through a heightened focus on monitoring reciprocity, tracking relational inputs and outcomes, and evaluating interactions in cost–benefit terms. Moreover, these relationships remain significant after controlling for the Dark Triad traits.

Study 2

Study 1 provided initial evidence linking attachment insecurities to interpersonal objectification via exchange orientation. However, its quasi-longitudinal design limits the ability to draw strong causal inferences. To establish causality, preregistered Study 2 employed an experimental design.

Attachment orientations are frequently described as relatively stable, overarching patterns (Mikulincer & Shaver, 2007). However, research indicates that individuals maintain multiple attachment representations tied to specific relationships and situations (Baldwin et al., 1996;

Pierce & Lydon, 1998). When activated by contextual cues, these representations can elicit attachment-related responses that do not necessarily align with a person's dispositional attachment style (Kogut & Kogut, 2011; Mikulincer et al., 2001). Thus, presenting descriptions that reference particular attachment figures may temporarily evoke distinct relational schemas and corresponding attachment states. Experimental studies have shown that attachment security, anxiety, and avoidance can be induced through such manipulations (e.g., Clark et al., 2011; Gasiorowska et al., 2026; Gillath et al., 2009; Jones et al., 2022; Kogut & Kogut, 2011; Sun et al., 2020). Accordingly, we manipulate participants' attachment avoidance (vs. anxiety and control condition) expecting that this should increase their tendency to objectify others, with exchange orientation towards a romantic partner as a mediator.

Moreover, to avoid unwarranted inferences (Fiedler et al., 2018) stemming from the strong negative association between exchange and communal orientations, we included communal orientation toward romantic partners as a parallel mediator. Although exchange and communal orientations represent theoretically distinct relational norms, they are typically substantially negatively correlated (Gasiorowska et al., 2025). Examining exchange orientation in isolation could therefore confound its effects with reduced communal responsiveness. Including communal orientation as a second mediator allowed us to isolate the unique contribution of exchange orientation to interpersonal objectification.

Additionally, mood or negative affect might influence both exchange orientation and attachment-related cognitions (Jarvis et al., 2019; Pereg & Mikulincer, 2004). Therefore, we tested whether the indirect effects of attachment patterns on objectification via exchange orientation would remain significant after controlling for current mood. Hypotheses, design, sampling plan, exclusion criteria, and analysis strategy for Study 2 was preregistered at https://aspredicted.org/ue62gy.pdf.

Participants and Procedure

We based our sample size calculation on prior correlational evidence indicating an indirect effect of attachment anxiety on interpersonal objectification via exchange orientation (ab = .07). Using Monte Carlo Power Analysis for Indirect Effects (Schoemann et al., 2017), we determined that a sample size of $n = 206$ participants would be sufficient to detect this effect at a 95% confidence level with a statistical power of .95. However, as this study is experimental and not correlational, and the strength of the manipulation could not be precisely estimated, we aim to recruit at least 700 participants in total.

Seven hundred and four U.S. participants with prior romantic relationship experience were recruited via Prolific Academic (Palan & Schitter, 2018). In line with our preregistered criteria, 71 participants were excluded for failing attention checks or providing irrelevant responses in the manipulation task. The final sample included $N = 633$ participants (409 women, 215 men, 9 other/prefer not to say; median age = 41 years, $M = 42.06$, $SD = 12.30$).

After providing informed consent, participants reported demographic information and were randomly assigned to one of three conditions: an attachment anxiety condition, an attachment avoidance condition, or a control condition. Participants completed a task based on Baldwin et al. (1996) grounded in the attachment dimensions proposed by Hazan and Shaver (1987). Participants were asked to recall and describe a specific relationship and reflect on the emotions associated with it. In the attachment anxiety condition ($n = 210$), participants were asked to recall and reflect on a relationship in which they feared rejection or abandonment. In the attachment avoidance condition ($n = 207$), participants were asked to recall and reflect on a relationship in which they felt uncomfortable with emotional closeness or intimacy. In the control condition ($n = 216$), participants were instructed to think about a stranger who made them

feel uneasy. Following the manipulation, participants were instructed to provide brief details about the relationship, including when it occurred, its duration, and the type of relationship.

Subsequently, four blocks of measures were presented in randomized order. The first block included the same objectification as in Study 1 (α = .84; M = 2.59, SD = 0.97). The second block included the target-specific Exchange Orientation Scale (ECO; Gasiorowska et al., 2025), measuring exchange orientation (α = .89; M = 2.52, SD = 0.87) and communal orientation (α = .95; M = 4.44, SD = 0.82) toward a romantic partner or spouse. Both measures were adapted to capture state-level responses. The third block included four items from the State Adult Attachment Scale (Gillath et al., 2009) that served as a manipulation check. Participants responded to items assessing attachment anxiety (e.g., "I feel a strong need to be unconditionally loved right now"; α = .89; M = 5.05, SD = 1.56) and avoidance (e.g., "If someone tried to get close to me, I would try to keep my distance"; α = .76; M = 3.01, SD = 1.57). In the fourth block, participants rated their current mood on a scale from -10 (very negative) to 10 (very positive; M = 3.33, SD = 4.44).

Results and Discussion

Manipulation checks confirmed the effectiveness of the attachment manipulation (see SOM). To test our preregistered hypothesis, we conducted a mediation analysis with two dummy-coded predictors: (1) attachment anxiety versus the control condition and (2) attachment avoidance versus the control condition. Exchange and communal orientation toward romantic partners served as two potential mediators, and interpersonal objectification was the dependent variable. Due to non-normality in communal orientation, we used Bayesian estimation in Mplus 8.10. All reported estimates are based on standardized values. We estimated total, direct, and indirect effects using credibility intervals. The model showed excellent fit to the data: 95% CI for χ^2 [-20.42, 19.21], RMSEA = 0, CFI = 1.00, TLI = 1.00, posterior predictive value = .750.

Our results showed that the total effect of attachment avoidance (vs. control) on interpersonal objectification was significant, while the total effect of attachment anxiety (vs. control) was nonsignificant (Table 2 and Figure 1). Both attachment anxiety and attachment avoidance manipulations (vs. control) triggered the level of exchange orientation toward romantic partners. At the same time, attachment avoidance reduced communal orientation toward romantic partners, whereas the corresponding effect of attachment anxiety was not significant. Exchange orientation was positively associated with interpersonal objectification, whereas communal orientation was negatively associated.

After controlling for the mediators, the direct effect of attachment avoidance (vs. control) on objectification of others remained significant, while the direct effect of attachment anxiety (vs. control) was nonsignificant. The indirect effects of both attachment anxiety and attachment avoidance (vs. control) on interpersonal objectification via exchange orientation toward romantic partners were significant. Furthermore, attachment avoidance reduced communal orientation toward a romantic partner, thereby contributing to higher objectification of others; this indirect effect was not significant for attachment anxiety (Table 2).

Table 2.

The effects of attachment anxiety and avoidance (vs. control) on interpersonal objectification via exchange and communal orientation toward a romantic partner (Study 2)

Paths	β	Posterior *SD*	95% CI	*p*
Structural paths				
Anx→ EO-R	.12	.04	[.04, .21]	.001
Avo→ EO-R	.09	.04	[.01, .16]	.001
Anx→ CO-R	-.08	.04	[-.15, .004]	.080
Avo → CO-R	-.14	.04	[-.20, -.02]	.040

EO-R→ Obj	.35	.03	[.28, .42]	.001
CO-R → Obj	-.12	.04	[-.21, -.05]	.001
Direct Effects				
Anx → Obj	.03	.04	[-.05, .11]	.440
Avo → Obj	.13	.04	[.05, .20]	.001
Total Effects				
Anx → Obj	.08	.05	[-.01, .18]	.080
Avo → Obj	.19	.04	[.09, .25]	.001
Covariances				
EO-R←→CO-R	-.33	.04	[-.39, -.27]	.001
Indirect Effects				
Anx→ EO-R→ Obj	.04	.02	[.01, .08]	.001
Avo→EO-R→ Obj	.03	.01	[.005, .06]	.001
Anx→ CO-R→ Obj	.01	.01	[-.001, .02]	.080
Avo→ CO-R→ Obj	.02	.01	[.002, .03]	.040

Note: Anx = Attachment anxiety (vs. Control) condition, Avo = Attachment avoidance (vs. Control) condition, EO-R = Exchange orientation toward a romantic partner, CO-R= Communal orientation toward a romantic partner, Obj = Interpersonal objectification.

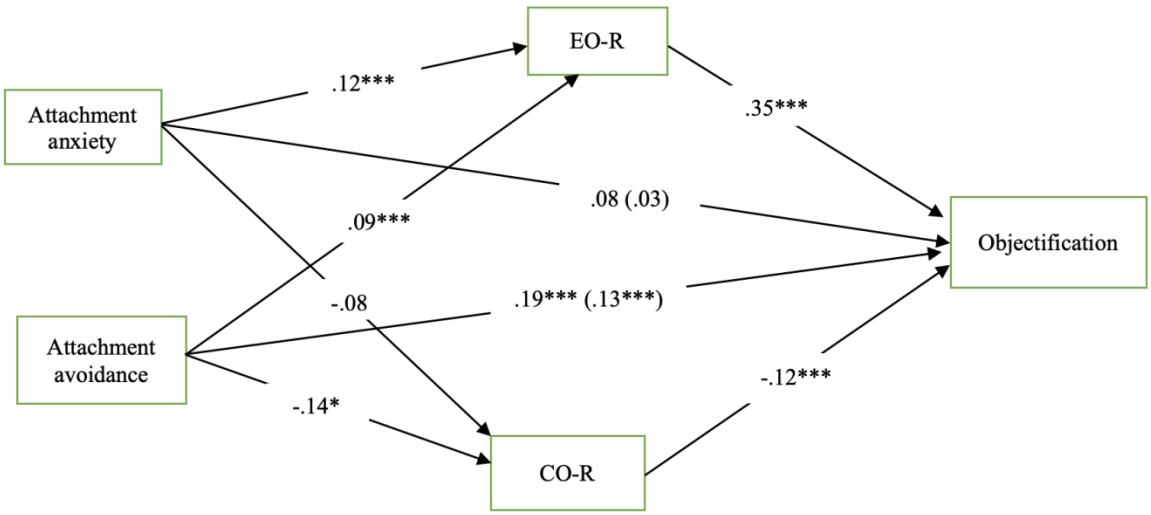


Figure 1. Effects of attachment anxiety and avoidance (vs. control) on objectification of others via exchange and communal orientation toward a romantic partner (Study 2). Standardized path coefficients. EO-R = Exchange orientation toward a romantic partner, CO-R= Communal orientation toward a romantic partner; ***$p < .001$, **$p < .01$, *$p < .05$

In a second model controlling for mood, the indirect effects remained significant. the indirect effect of attachment anxiety via reduced communal orientation became significant (see Table S2 in the SOM).

Taken together, these findings provide causal evidence that both forms of attachment insecurity increase interpersonal objectification through heightened exchange orientation. For attachment anxiety, this effect operated primarily through the activation of a transactional relational mindset. In contrast, attachment avoidance additionally predicted objectification through reduced communal orientation, suggesting a broader shift in relational engagement. These patterns suggest that objectification among anxiously attached individuals is context-dependent and emerges when exchange-based relational norms are activated. For avoidantly attached individuals, objectification appears more chronically accessible, reflecting a stable tendency toward instrumental social perception.

Study 3

Study 2 provided causal evidence that activating attachment-related states increases interpersonal objectification via exchange orientation, with distinct patterns for attachment anxiety and avoidance. However, mediation designs alone do not establish whether exchange orientation causally drives this effect (Pieters, 2017). Therefore, Study 3 employed a moderation-of-process design (Pirlott & MacKinnon, 2016; Spencer et al., 2005), in which attachment dimensions were measured and exchange orientation toward romantic partners was experimentally manipulated. This design allows us to test whether activating a transactional relational framework amplifies the link between attachment insecurities and interpersonal objectification.

Additionally, to further test the robustness of our findings, we assessed interpersonal objectification using an alternative measure—the Objectification Scale developed by Belmi and Schroeder (2021). This scale was constructed to reflect the seven core dimensions of interpersonal objectification proposed by Nussbaum (1999): instrumentality, denial of autonomy, inertness, fungibility, violability, ownership, and denial of subjectivity. For the purposes of the present study, items were adapted to capture state-level objectification. Hypotheses, design, sampling plan, exclusion criteria, and analysis strategy for Study 3 was preregistered https://aspredicted.org/m9xm6m.pdf.

Participants and Procedure

Based on prior research using exchange orientation manipulation (Wang et al., 2022), we assumed a small effect size ($R^2 \approx .045$). We also assumed a modest association between attachment avoidance and objectification, similar to its indirect effects via exchange orientation that we obtained in our previous studies ($\beta = .10$). An a priori power analysis with G*Power (Faul et al., 2007) indicated that a sample of $n = 273$ would be sufficient to detect such effects in a linear regression with three predictors, assuming $\alpha = .05$ and power of .90. Because our key

test assumed interaction effects, we doubled the target sample size, aiming to recruit $n = 550$ participants.

A total of $N = 555$ Canadian participants with prior romantic relationship experience were recruited via Prolific Academic (Palan & Schitter, 2018). Eighty participants were excluded for failing attention checks or providing irrelevant responses to the open-ended questions, resulting in a final sample of $N = 475$ participants (269 women, 197 men, 9 other/prefer not to say; median age = 36 years, $M = 37.80$, $SD = 12.30$).

After providing informed consent, participants reported demographic information and were randomly assigned to one of two conditions, based on a manipulation adapted from Wang et al. (2022). In the exchange condition ($n = 250$), participants recalled and described a past event in a close relationship where they adopted an exchange-oriented mindset. In the control condition ($n = 225$), participants recalled and described the last time they spent time with their romantic partner. In both conditions participants were instructed to describe the situation in detail, including their thoughts and feelings. To verify the effectiveness of the manipulation, participants responded to two adapted items from the Exchange Orientation Scale (ECO; Gasiorowska et al., 2025) to measure the current state of exchange orientation toward a romantic partner/spouse (e.g., “Right now, starting a joint activity with this person, I want to know how I will personally benefit.”; $\alpha = .58$, $M = 2.94$, $SD = 0.98$) and a measure of communal orientation (e.g., “Right now, in this relationship, closeness and care matter more than material benefits”; $\alpha = .64$, $M = 4.43$, $SD = 0.74$). Participants then filled in two blocks presented in random order: (1) a 7-item modified version of the Objectification Scale (Belmi & Schroeder, 2021) (e.g., “During a meeting with this person, I would value this person primarily for what they can do for me.”; $\alpha = .81$; $M = 2.16$, $SD = 0.92$; (2) current mood rating on a scale from -10 to +10 ($M = 4.24$, $SD = 4.01$). The short version of the Experiences in Close Relationships scale (Wei et al., 2007),

measuring attachment anxiety (α = .78; M = 3.42, SD = 1.28) and attachment avoidance (α = .81; M = 2.14, SD = 0.98), was administered either before the manipulation or at the end of the study, with order randomly assigned across participants.

Results and Discussion

Manipulation checks confirmed that the exchange orientation manipulation increased exchange orientation and decreased communal orientation (see SOM).

To test our preregistered hypothesis, we fitted a general linear model in Jamovi. Attachment anxiety and avoidance were included as predictors, interpersonal objectification others served as the dependent variable, exchange orientation (vs control) served as a moderator of the associations between attachment dimensions and objectification. All reported estimates are based on standardized values.

The overall model was significant, F (5,469) = 28.50, p < .001, R^2 = 23.3%. Specifically, exchange orientation manipulation (vs. control group), attachment avoidance, and attachment anxiety were positively related to interpersonal objectification, with a stronger effect for attachment avoidance than attachment anxiety. Most importantly, the interactions between exchange orientation manipulation and both attachment anxiety and attachment avoidance on interpersonal objectification were significant (Table 3). Further decomposition of these interactions demonstrated that in the exchange orientation condition, attachment anxiety was positively associated with interpersonal objectification (β = .24, SE = .06, t = 4.01 p < .001, 95%CI [.12, .36], whereas in the control condition, this link was not significant (β = .03, SE = .06, t = .499 p = .618, 95%CI [-.09, .15] (Figure 2A). Attachment avoidance was positively related to interpersonal objectification in both conditions, but the effect was substantially stronger in the exchange orientation condition (β = .44, SE = .06, t = 7.76 p < .001, 95%CI [.33,

.55]) than in the control condition (β = .20, *SE* = .07, *t* = 3.02 *p* = .003, 95%CI [.07, .33]) (Figure 2B).

Table 3.

The moderating effect of exchange orientation (vs. control) on the relationship between attachment insecurities and interpersonal objectification (study 3)

Predictors	β	*SE*	95%CI	*t*	*p*
Structural paths					
Avo	.32	.04	[.23, .40]	7.31	.001
Anx	.13	.04	[.05, .22]	3.17	.002
Exchange Orientation	.29	.08	[.13, .46]	3.60	.001
Avo × Exchange Orientation	.23	.09	[.06, .41]	2.70	.007
Anx × Exchange Orientation	.21	.08	[.04, .38]	2.46	.014

Note: Anx = Attachment Anxiety, Avo = Attachment avoidance, Exchange Orientation = Exchange orientation toward a romantic partner (vs. control condition)

Figure 2A.

Interaction between attachment anxiety and exchange orientation (vs. control) condition on interpersonal objectification

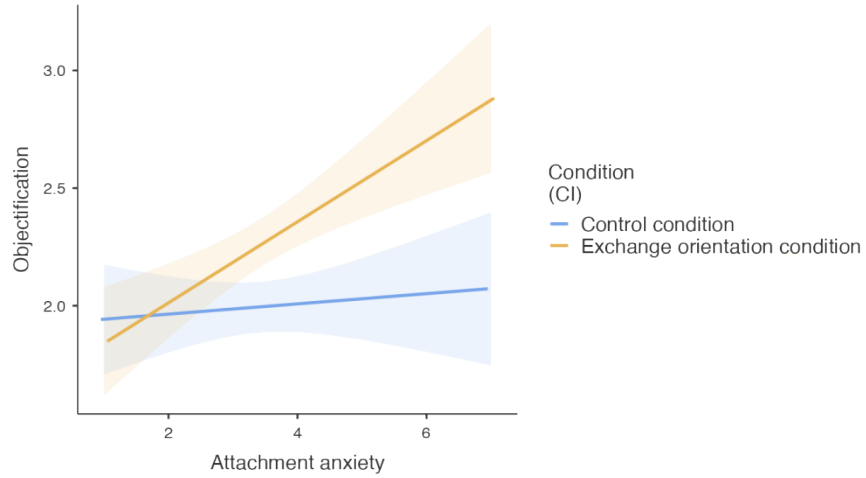
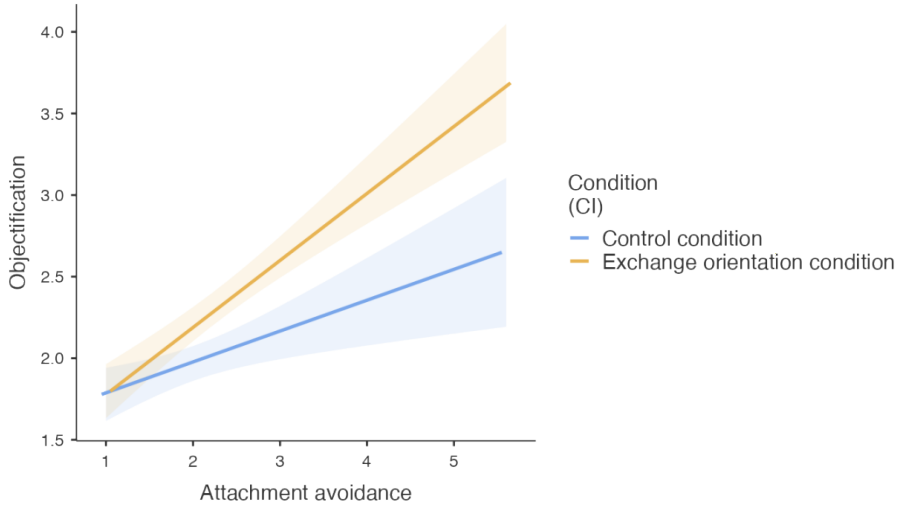


Figure 2B.

Interaction between attachment avoidance and exchange orientation (vs. control) condition on interpersonal objectification



Finally, current mood was not related to interpersonal objectification, and controlling for it did not change the pattern of results (Table S3 in the SOM).

Taken together, these findings provide strong evidence that exchange orientation plays a causal role in linking attachment insecurities to interpersonal objectification. Activating a transactional relational framework not only increases objectification directly but also amplifies the effects of both attachment anxiety and avoidance. Importantly, attachment anxiety predicted objectification only when exchange orientation was activated, whereas attachment avoidance showed a more stable association that was further intensified under exchange conditions. These results demonstrate that objectification can emerge from the strategic adoption of relational norms and that the impact of attachment insecurity depends critically on the relational frameworks individuals use to structure social interactions.

General Discussion

In this project, we integrated attachment theory with research on exchange orientation toward romantic partners to propose that transactional relational frameworks play a key role in

interpersonal objectification in individuals with attachment insecurities. Across three studies, we show that attachment insecurities—particularly attachment avoidance—are positively associated with the objectification of others, and that this relationship is consistently linked to an exchange orientation toward romantic partners.

In a quasi-longitudinal Study 1, we found that both attachment anxiety and avoidance were indirectly associated with interpersonal objectification via higher levels of exchange orientation toward romantic partners. These effects remained significant after controlling for Dark Triad traits. In a preregistered experimental Study 2, we established causal evidence: activating attachment avoidance (vs. a control condition) increased interpersonal objectification, whereas activating attachment anxiety (vs. a control condition) did not produce such a total effect. Importantly, both attachment anxiety and avoidance (vs. a control group) increased objectification indirectly, via heightened exchange orientation toward romantic partners. In preregistered experimental Study 3, we provided a direct test of the mechanism by manipulating exchange orientation (vs. a control condition). Activating an exchange-oriented mindset increased interpersonal objectification and strengthened its association with both attachment dimensions. Notably, attachment anxiety predicted objectification only in the exchange-orientation condition, whereas attachment avoidance predicted objectification in both conditions, with a substantially stronger effect in the exchange-orientation condition than in the control group. These effects remained robust after controlling for current mood in Studies 2 and 3. Taken together, these findings demonstrate that exchange-related experiences with romantic partners is not merely associated with objectification but plays a central role in translating attachment-related insecurities into instrumental perceptions of others.

Attachment insecurities and interpersonal objectification

Our findings provide a more differentiated account of how attachment insecurities relate to interpersonal objectification. Across three studies, attachment avoidance showed a stronger and more stable association with interpersonal objectification than attachment anxiety. In Study 1's quasi-longitudinal design, both attachment anxiety and attachment avoidance were positively correlated with interpersonal objectification. However, this pattern changed when accounting for overlapping personality dispositions. After controlling for the Dark Triad traits (Machiavellianism, narcissism, and psychopathy), the total effect of attachment anxiety on interpersonal objectification became non-significant, whereas the total effect of attachment avoidance remained significant. This pattern suggests that the association between attachment anxiety and interpersonal objectification may be explained by shared variance with antagonistic traits (Brewer et al., 2018; Wang et al., 2022), and hyperactivated emotional strategies (Tammilehto et al., 2023), whereas attachment avoidance reflects a more distinct relational disposition.

Study 2 provided causal evidence for these effects. Activating attachment avoidance increased state-level interpersonal objectification relative to a control condition, whereas activating attachment anxiety did not produce such effect. This asymmetry aligns with the prior research showing that attachment avoidance is associated with distrust of others, reduced communion, and deactivating strategies, which may foster a more instrumental stance toward others (Bartz et al., 2015; Bartz & Lydon, 2004, 2006, 2008). In contrast, attachment anxiety is primarily oriented toward gaining proximity and validation (Arriaga et al., 2014; DeWall et al., 2011; Izhaki-Costi & Schul, 2011), which does not inherently imply reduced recognition of others' subjectivity. Together, these findings indicate that attachment avoidance constitutes a robust dispositional basis for interpersonal objectification, whereas attachment anxiety plays a more context-dependent role. Importantly, these findings extend prior work showing that

attachment avoidance is linked to reduced empathy and mentalizing, which in turn predicts objectification (Ecer et al., 2026), by demonstrating a causal relationship between avoidance and objectification.

Exchange Orientation toward Romantic Partners as a Psychological Mechanism

A central contribution of this research is the identification of exchange orientation toward romantic partners as a key relational mechanism linking attachment insecurities and interpersonal objectification. Building on relational models theory (Clark & Mills, 1979, 2012; Mills & Clark, 2013) and the Social Interaction Model of Objectification (Gervais et al., 2020), we demonstrated that transactional norms—such as monitoring inputs and outcomes, tracking reciprocity, and prioritizing cost–benefit evaluations—shape how individuals perceive others, increasing the likelihood of construing them in instrumental terms.

Across all three studies, we found consistent evidence that attachment insecurities are associated with greater endorsement of exchange-based relational norms, which in turn predict higher levels of interpersonal objectification. In Study 1, individuals higher in both attachment anxiety and avoidance reported stronger exchange orientation toward romantic partners, which mediated their tendency to objectify others. In Study 2, experimentally activating attachment anxiety and avoidance increased exchange orientation towards romantic partners, which in turn predicted objectification. Finally, Study 3 provided direct causal evidence: inducing an exchange-oriented mindset not only increased objectification but also strengthened the relationship between attachment insecurities and objectification.

These findings are consistent with prior research showing that individuals with attachment insecurities are more likely to adopt exchange-based approaches in close relationships (Bartz & Lydon, 2008; Clark et al., 2010; Gasiorowska & Ecer, 2026; Gasiorowska & Zaleskiewicz, 2023a, 2023b). From a functional perspective, such frameworks may serve as

compensatory strategies. For anxiously attached individuals, exchange norms may reduce uncertainty and provide a sense of predictability in relationships, whereas for avoidantly attached individuals, they may help maintain autonomy and control (Gasiorowska & Ecer, 2026). In both cases, exchange orientation offers a structured and calculable way of navigating relational interactions.

However, although exchange orientation may provide short-term psychological benefits, it appears to carry important interpersonal costs. Prior work has shown that exchange-based relational norms are associated with reduced communal responsiveness, lower trust, and greater focus on self-interest and material outcomes (Gasiorowska et al., 2025; Jarvis et al., 2019; Wang et al., 2022). In line with this, our findings demonstrate that exchange orientation promotes a shift from perceiving others as autonomous individuals to evaluating them in terms of their utility. Thus, while exchange orientation may regulate relational insecurity, it simultaneously creates a cognitive context in which objectification becomes more likely.

Importantly, our results extend existing research in two ways. First, prior work has shown that exchange orientation is associated with objectification within romantic relationships (Wang et al., 2022). We demonstrate that this effect generalizes beyond the focal relationship, influencing how individuals perceive others more broadly. Second, our findings complement research linking attachment avoidance to objectification via reduced empathy and mentalizing (Ecer et al., 2026) by identifying an alternative, relational pathway. Rather than emerging solely from socio-cognitive deficits, objectification may also arise from the strategic adoption of relational norms that prioritize exchange, calculability, and self-protection.

Crucially, the role of exchange orientation differs across attachment dimensions. For individuals high in attachment avoidance, exchange orientation appears to amplify an already present tendency toward instrumental perception. In contrast, for individuals high in attachment

anxiety, objectification emerges primarily when exchange-based relational norms are activated. This asymmetry suggests that exchange orientation functions both as a mediating mechanism and as a contextual amplifier, translating relational insecurity into objectification in distinct ways depending on the underlying attachment system.

Taken together, this research advances a process-level account of interpersonal objectification by showing that it can emerge not only from deficits in social cognition, but also from the relational frameworks individuals use to regulate their social interactions. By integrating attachment theory with relational models of exchange, we demonstrate that concerns about relational security shape not only how individuals behave in close relationships, but also how they perceive others more broadly. In particular, exchange orientation functions as a key mechanism through which attachment insecurities—especially avoidance—translate into instrumental social perception. More broadly, these findings highlight that objectification may arise from the strategic use of transactional relational norms that prioritize calculability, reciprocity, and self-protection, thereby extending existing accounts of objectification beyond cognitive deficits to include relationally grounded regulatory processes.

Limitations and Future Research

Although our research provides converging correlational and experimental evidence linking attachment insecurities to interpersonal objectification through an exchange orientation toward romantic partners, several limitations warrant consideration. First, our participants were from the UK, the US, and Canada populations often characterized as WEIRD (Western, Educated, Industrialized, Rich, and Democratic; Henrich et al., 2010). Cultural values are known to shape attachment patterns (Sakman & Sümer, 2024), relational orientations such as exchange vs. communal norms (Bresnahan et al., 2004), and social perceptions, including objectification (Wollast et al., 2018). As such, the generalizability of the present findings to non-WEIRD

cultural contexts remains an open question. Future studies should examine whether the proposed mechanism operates similarly in cultures that place greater emphasis on interdependence and communal relational norms.

Second, although Study 1 employed a two-wave quasi-longitudinal design, it did not assess all focal constructs at both time points. This limits the strength of causal inferences regarding the proposed mediation pathway. Future research would benefit from full longitudinal designs with multiple measurement waves, allowing for a more rigorous test of temporal ordering among attachment insecurities, exchange orientation, and interpersonal objectification.

Third, while Studies 2 and 3 used experimental manipulations to establish causality, these methods represent simplified analogues of real-world processes. The recall-based tasks used in the present research may not fully capture how relational orientations unfold dynamically in everyday interactions. To enhance ecological validity, future studies could employ methods such as daily diary reports, experience-sampling, or behavioral observation of dyadic interactions to examine how exchange-based relational frameworks operate in real time (Jarvis et al., 2019).

Fourth, the manipulation checks in Study 3, while demonstrating a significant effect, relied on a brief two-item scale with modest reliability. Although sufficient to verify the effectiveness of the manipulation, future research should employ more robust multi-item scales or behavioral indicators to better capture the activation of an exchange-oriented mindset.

Finally, all studies relied on self-report measures of interpersonal objectification. Although these measures are validated, they may be susceptible to social desirability biases and may not fully capture implicit or automatic objectifying tendencies. Future research should complement self-reports with behavioral or implicit measures, such as assessing mental state attribution (e.g., mind perception paradigms) or using reaction-time-based tasks to capture

instrumental construal of others (Belmi & Schroeder, 2021; Bernard et al., 2018; Holland & Haslam, 2013).

Despite these limitations, the present findings consistently demonstrate, across multiple methods and samples, that attachment insecurities are linked to interpersonal objectification through exchange-orientated relational frameworks.

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Supplementary Online Materials for From Insecurity to Instrumentality: Exchange Orientation as a Relational Mechanism Linking Attachment to Interpersonal Objectification

Study 1

Table S1.

The relationship between attachment anxiety and avoidance, and interpersonal objectification via exchange orientation after controlling for dark triad traits (Study 1)

Paths	β	*SE*	95%CI	*z*	*p*
Structural paths					
Anx→ EO-R	.13	.04	[.05, .22]	3.20	.001
Avo → EO-R	.27	.04	[.19, .35]	6.51	.001
EO-R→ Obj	.22	.04	[.15, .30]	5.74	.001
Psycho → Anx	.09	.05	[-.01, .18]	1.77	.077
Psycho → Avo	.26	.05	[.16, .36]	5.26	.001
Mach → Anx	.13	.06	[.02, .24]	2.26	.024
Mach → Avo	.05	.06	[-.06, .16]	.804	.421
Narc → Anx	.21	.05	[.11, .30]	4.10	.001
Narc → Avo	-.06	.05	[-.16, .04]	-1.20	.231
Psycho → EO-R	-.06	.05	[-.16, .03]	-1.25	.211
Mach → EO-R	-.07	.05	[-.18, .04]	-1.24	.215
Narc → EO-R	.23	.05	[.13, .33]	4.54	.001
Psycho → Obj	.25	.04	[.16, .33]	5.53	.001
Mach → Obj	.15	.05	[.05, .25]	3.01	.003
Narc → Obj	.06	.05	[-.03, .15]	1.24	.214
Total Effects					
Anx → Obj	.03	.04	[-.05, .10]	.643	.520
Avo → Obj	.09	.04	[.01, .17]	2.35	.019
Direct Effects					
Anx → Obj	-.004	.04	[-.08, .07]	-.115	.909
Avo → Obj	.03	.04	[-.04, .11]	.809	.418
Indirect Effects					
Anx→ EO-R→ Obj	.03	.01	[.01, .05]	2.80	.005
Avo→EO-R→ Obj	.06	.01	[.03, .09]	4.30	.001

Note: Anx = Attachment Anxiety, Avo = Attachment avoidance, EO-R = Exchange orientation toward a romantic partner, Obj = Interpersonal objectification, Mach = Machiavellianism, Psycho = Psychoticism, Narc = Narcissism

Study 2

To examine whether the attachment priming manipulation was successful, we conducted two one-way ANCOVAs with attachment condition (anxiety, avoidance, control) as the between-subjects factor and state attachment anxiety and state attachment avoidance as dependent variables. There was a significant effect of attachment condition on state attachment anxiety, $F(2, 630) = 11.90$, $p = .001$, $\eta p^2 = .037$.

Post hoc comparisons using the Tukey correction indicated that participants in the control condition reported significantly lower attachment anxiety ($M = 4.81$, $SD = 1.62$) than participants in the anxiety priming condition ($M = 5.47$, $SD = 1.26$), $t(630) = -4.43$, $p < .001$, $d = -0.43$, and the avoidance priming condition ($M = 4.87$, $SD = 1.68$), $t(630) = -4.01$, $p < .001$, $d = -0.39$. The control and avoidance conditions did not differ significantly, $t(630) = -0.38$, $p = .923$, $d = -0.04$.

We also found a significant effect of attachment condition on state attachment avoidance, $F(2, 630) = 3.98$, $p = .019$, $\eta p^2 = .012$. Post hoc comparisons using the Tukey test showed that participants in the control condition reported significantly lower attachment avoidance ($M = 2.88$, $SD = 1.44$) than those in the avoidance priming condition ($M = 3.26$, $SD = 1.62$), $t(630) = -2.51$, $p = .033$, $d = -0.24$. Additionally, participants in the avoidance condition reported higher attachment avoidance than those in the anxiety condition ($M = 2.90$, $SD = 1.62$), $t(630) = 2.38$, $p = .047$, $d = 0.23$. The control and anxiety conditions did not differ significantly, $t(630) = -0.12$, $p = .992$, $d = -0.01$. In sum, this pattern of results confirms the effectiveness of the attachment manipulation.

As robustness check, we examined the relationship between attachment insecurity priming (vs. control) and interpersonal objectification through exchange orientation toward a romantic partner and communal orientation toward a romantic partner as an alternative mediator, and current state mood as a covariate using structural equation modelling with Mplus 8.10 with

the the Bayesian estimator. The model showed excellent fit to the data: 95% CI for χ^2 [-19.02, 22.75], RMSEA = 0, 90%CI [0, 0.14], p = .583, CFI = 0.99, TLI = 0.92, posterior predictive value = .500.

After including current mood as a covariate, the total effect of attachment anxiety on the objectification of others became significant, whereas the total effect of attachment avoidance remained significant. The relationship between attachment insecurity priming (vs. the control condition) also remained significant. Moreover, the relationship between attachment anxiety priming (vs. the control condition) and communal orientation toward a romantic partner became negative and significant, while the relationship between attachment avoidance priming (vs. control) and communal orientation toward a romantic partner remained negative and significant.

The direct effect of attachment avoidance on the objectification of others remained significant, whereas the direct effect of attachment anxiety remained non-significant. Both mediators were negatively related. Exchange orientation toward a romantic partner was positively related to objectification, while communal orientation toward a romantic partner was negatively related; the former effect was stronger than the latter.

Moreover, current mood was not associated with attachment insecurity priming (vs. control group) or exchange orientation toward a romantic partner, but it was positively linked to communal orientation toward a romantic partner and the objectification of others. Most importantly, the indirect effect of attachment insecurity priming (vs. control group) on the objectification of others through higher levels of exchange orientation toward romantic partners remained significant. Additionally, the indirect effect of attachment avoidance priming (vs. control) on the objectification of others through lower levels of communal orientation toward romantic partners remained significant, whereas the indirect effect of attachment anxiety priming

(vs. control) on the objectification of others through lower levels of communal orientation also became significant (see Table S2).

Table S2.

The relationship between attachment insecurity priming (vs. control) and interpersonal objectification through exchange orientation and communal orientation toward a romantic partner after controlling for current mood (Study 2)

Paths	β	Posterior *SD*	95%CI	*p*
Structural paths				
Anx→ Mood	-.02	.05	[-.10, .07]	.740
Avo→ Mood	-.02	.04	[-.10,.07]	.600
Anx→ EO-R	.12	.04	[.03, .20]	.001
Avo→ EO-R	.10	.04	[.02,.18]	.040
Mood→ EO-R	-.003	.04	[-.06,.07]	.920
Anx→ CO-R	-.09	.04	[-.15, -.01]	.020
Avo → CO-R	-.13	.04	[-.22, -.05]	.001
Mood→ CO-R	.24	.04	[.15, .30]	.001
EO-R→ Obj	.35	.04	[.26, .41]	.001
CO-R → Obj	-.15	.04	[-.23, -.08]	.001
Mood→ Obj	.08	.03	[.01,.15]	.020
Total Effects				
Anx → Obj	.08	.04	[.001, .18]	.040
Avo → Obj	.19	.04	[.13, .28]	.001
Direct Effects				
Anx → Obj	.03	.03	[-.04, .09]	.360
Avo → Obj	.14	.03	[.07, .20]	.001
Covariances				
EO-R←→CO-R	-.34	.03	[-.40, -.28]	.001
Indirect Effects				
Anx→ EO-R→ Obj	.04	.02	[.01, .07]	.001
Avo→EO-R→ Obj	.04	.01	[.01, .06]	.040
Anx→ CO-R→ Obj	.01	.01	[.002, .03]	.020
Avo→ CO-R→ Obj	.02	.01	[.01, .04]	.001

Note: Anx = Attachment anxiety (vs. Control) condition, Avo = Attachment avoidance (vs. Control) condition, EO-R = Exchange orientation toward a romantic partner, CO-R= Communal orientation toward aromantic partner, Obj = Interpersonal objectification.

To sum up, we demonstrated that after controlling for current mood, attachment insecurity priming (vs. control) increased exchange orientation and decreased communal orientation toward romantic partners, which in turn contributed to the interpersonal

objectification. The indirect effect of attachment avoidance priming (vs. control) on interpersonal objectification via reduced communal orientation toward romantic partners was stronger than the corresponding indirect effect of attachment anxiety priming (vs. control).

Study 3

To examine whether the exchange orientation priming manipulation was successful, we conducted one-way ANCOVAs with condition (exchange orientation vs. control) as the between-subjects factor and exchange orientation and communal orientation toward a romantic partner as dependent variables.

There was a significant effect of condition on exchange orientation toward a romantic partner, $F(1, 473) = 5.30$, $p = .022$, $\eta_p^2 = .011$. Participants in the exchange orientation condition ($M = 3.04$, $SD = 0.97$) reported significantly higher exchange orientation than those in the control condition ($M = 2.84$, $SD = 0.98$).

We also found a significant effect of condition on communal orientation toward a romantic partner, $F(1, 473) = 20.00$, $p = .001$, $\eta_p^2 = .040$. Participants in the control condition ($M = 4.59$, $SD = 0.54$) reported significantly higher communal orientation than those in the exchange orientation condition ($M = 4.29$, $SD = 0.86$). Together, these findings confirm the effectiveness of the exchange orientation manipulation.

We additionally tested whether the priming manipulation affected current mood. Results indicated a significant effect of condition on current mood, $F(1, 473) = 4.29$, $p = .039$, $\eta_p^2 = .009$. Participants in the control condition ($M = 4.64$, $SD = 3.86$) reported higher positive mood than those in the exchange orientation condition ($M = 3.88$, $SD = 4.11$). Thus, exchange orientation priming reduced positive affect relative to the control condition.

Table S3.

The moderating effect of exchange orientation (vs. control) on the relationship between attachment insecurities and interpersonal objectification after controlling for current mood (Study 3)

Predictors	β	*SE*	95%CI	*t*	*p*
Avo	.31	.04	[.23, .40]	7.08	.001
Anx	.13	.04	[.04, .22]	2.89	.004
Mood	-.02	.04	[-.11, .07]	-.426	.670
Exchange orientation	.29	.08	[.13, .45]	3.57	.001
Avo × Exchange orientation	.24	.09	[.06, .41]	2.71	.007
Anx × Exchange orientation	.21	.08	[.04, .38]	2.45	.014

Note: Avo = Attachment avoidance, Anx = Attachment Anxiety, Exchange orientation = Exchange orientation toward a romantic partner (vs. control condition)

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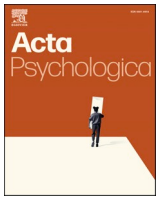

Uncovering the link between attachment and interpersonal objectification: The role of theory of mind and empathy

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ABSTRACT

While extensive research has examined the consequences of objectification in specific contexts (e.g., sexual or workplace settings), little is known about how interpersonal personal relationship is related to objectification. Similarly, although attachment theory explains relational patterns, its connection to interpersonal objectification—particularly via socio-cognitive processes like Theory of Mind (ToM) and empathy—remains largely unexplored. This study addresses these gaps by investigating the relationship between attachment insecurity and objectification of others via ToM and empathy. In three well-powered studies conducted in Poland, the UK, and Italy ($N = 1222$) we found a consistent relationship between attachment avoidance and interpersonal objectification, i.e., the higher the level of attachment avoidance, the higher the tendency to objectify others. Crucially, this relationship was accounted for by levels of ToM (Study 2 & 3) and empathy (Study 3). We discuss the implications of these findings for the literature on attachment styles and objectification, and the importance of integrating these findings into broader models of social and personality psychology.

1. Introduction

Objectifying others means viewing and treating people as means to achieve one's own goals. It entails two main components (Nussbaum, 1995): the instrumental use of others and the complementary disregard of their subjectivity. This disregard involves failing to see others as human beings deserving of respect and consideration (LaCroix & Pratto, 2015), and can open the door to behaviors that harm both individuals and society (Volpato & Andrighetto, 2015).

To date, much research has examined the consequences of objectification in sexual and workplace contexts, showing in both cases its detrimental impact on the wellbeing and self-image of those targeted by objectifying behaviors, as well as broader consequences such as the perpetuation of social inequalities (Baldissarri et al., 2022; Calogero et al., 2011). However, objectification is not confined to these domains. In this project, we recognize objectification as a persistent tendency among individuals that permeates interpersonal relationships even beyond sexual and work contexts. Initial studies have attempted to identify personal factors that may contribute to this tendency. Interpersonal objectification appears to be associated with traits within the Dark Triad, including narcissism, Machiavellianism, and psychopathy, as shown in recent work linking these dispositions to instrumental interpersonal orientations (Lachowicz-Tabaczek et al., 2025). Furthermore, individuals with stronger materialistic values tend to objectify online friends more easily, viewing them as possessions and means to social success (Ozimek et al., 2017). Consistently, possession of money—or even subtle reminders of money—can increase psychological distance from others by emphasizing their utility over their humanity (Teng et al., 2016; Wang & Krumhuber, 2017). Another catalyst for interpersonal objectification is power, as individuals in privileged positions may prioritize their own goals, exhibit disinterest in others, and show less empathy toward others' emotional states (Gruenfeld et al., 2008; Guinote, 2017). Further, subjective uncertainty in interpersonal relationships can also lead to objectification (Landau et al., 2012). In such cases, undermining the personal attributes of others and focusing exclusively on their tangible attributes serves as an adaptive response that reduces uncertainty and gives individuals a sense of illusory control in the interaction. Therefore, interpersonal objectification can also be understood as a (mal)adaptive process in interpersonal relationships, as it enables individuals to see others in ways that may be consistent with their own expectations or abilities to perceive the states or emotions of others. Building on this perspective, in this project, we use attachment

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theory as a paradigm to investigate the predictors of interpersonal objectification. We specifically propose that higher levels of attachment avoidance are associated with a stronger tendency to objectify others, and that this association is at least partially due to reduced the Theory of Mind (ToM) and empathy demonstrated by those high in attachment avoidance.

1.1. Attachment theory

Attachment theory offers a well-established framework for understanding how early relational experiences shape internal working models of the self and others, which in turn guide interpersonal functioning across the lifespan (Bowlby, 1969; Collins & Feeney, 2004). Insecure attachment in childhood, resulting from inconsistent caregiving, disrupts these models and leads to lower trust, more conflict, and socio-emotional deficits (Nijssens et al., 2020). For example, children with attachment avoidance show less motivation to engage with peers and teachers than children with a secure attachment (Rydell et al., 2005).

Extending into adulthood, attachment theory distinguishes two relatively stable dimensions of insecurity, anxiety and avoidance, that capture individual differences in the regulation of closeness and dependence on others. These dimensions stem from deep-seated insecurities about the availability and affection of their attachment figures (Ainsworth, 2014; Fraley, 2019; Fraley et al., 2000). When people are exposed to stress or perceived threats, they often respond by either hyperactivating or deactivating their attachment system (Belsky & Nezworski, 2015). Those with attachment avoidance tend to distance themselves from social relationships, suppress their feelings, and rely on self-sufficiency, which leads to the deactivation of the attachment system. Conversely, people with attachment anxiety typically crave closeness and worry more, which leads to hyperactivation of the attachment system (Ainsworth et al., 2015; Mikulincer & Shaver, 2013).

Most importantly, attachment-based cognitive frameworks continue to shape self-perception and interpersonal behavior (Collins & Feeney, 2004; Mikulincer & Shaver, 2017). For example, people with higher levels of attachment anxiety and avoidance have difficulty developing a coherent understanding of themselves and others (Mikulincer, 1995). People with a higher degree of attachment avoidance tend to believe that they naturally lack helpfulness or trustworthiness and project similar traits onto others. People with attachment anxiety, in turn, show similar self-perception patterns to people with attachment avoidance but are generally more positive toward others (Borawski et al., 2022).

Taken together, the patterns described above raise the question of whether certain maladaptive psychological processes, such as interpersonal objectification, can be attributed to attachment-related difficulties. Despite growing research on objectification, the relationship between attachment insecurities and objectification and the socio-cognitive processes underlying this relationship have not been adequately explored. The present project seeks to address this gap by examining these mechanisms directly.

1.2. Adult attachment insecurities and objectification

Building on the idea that attachment insecurities shape self–other representations, these patterns influence how individuals relate to others in adulthood, affecting both how external feedback is interpreted and how prosocial and interpersonal behavior develops (Feldman et al., 2013). For individuals with high attachment avoidance, self-worth becomes less dependent on others' approval and family support. This contrasts with anxiously attached individuals, who tend to focus on physical attractiveness and strive to impress others (L. E. Park et al., 2004). This distinction highlights how attachment styles shape both self-concept and interpersonal priorities. Specifically, attachment avoidance is characterized by emotional distancing, discomfort with intimacy, and habitual downregulation of attention to others' subjective experiences. Such defensive strategies reduce engagement with others as full psychological agents and may increase the likelihood of perceiving them in more instrumental, object-like terms. In contrast, individuals with attachment anxiety may still prefer closeness and connection, although their need for reassurance creates tension within such relationships (L. E. Park et al., 2011).

The habitual distancing associated with attachment avoidance also shapes how individuals process and interpret interpersonal encounters. Avoidantly attached individuals tend to show reduced attention to others' emotional cues, greater difficulty tolerating others' needs, and a general tendency to view social interactions through a pragmatic or utilitarian lens (Bartz & Lydon, 2008; Gasiorowska & Zaleskiewicz, 2023). These tendencies may make it easier to evaluate others in terms of their usefulness or relevance rather than their inner experiences. By contrast, although anxiously attached individuals struggle with emotion regulation, they typically remain highly focused on others' reactions and are motivated to maintain closeness—processes that make objectification less likely.

Indeed, people with higher levels of attachment avoidance exhibit reduced empathic concern and altruistic behavior toward both humans and animals, whereas attachment anxiety is generally unrelated to such patterns (Capozza et al., 2022; Richman et al., 2015). Individuals high in attachment avoidance also show lower interest in others' pain, heightened sensitivity to anger, and a greater fear of receiving compassion from others (Irak et al., 2020; Kural & Kovacs, 2021; Varley et al., 2024), which may explain why individuals with higher levels of attachment avoidance avoid social integration. These forms of emotional disengagement and defensive self-protection may encourage perceiving others as obstacles, threats, or means to an end—conditions conducive to objectification. Moreover, avoidant individuals' self-esteem instability has been linked to a greater tendency to objectify others to bolster self-worth (Landau et al., 2012; Niehuis et al., 2016). Relying on internal rather than relational sources of worth may also reduce motivation to recognize others' individuality and psychological depth.

Importantly, recent theoretical work by Calkins et al. (2023) directly highlights the potential role of attachment insecurity in objectification. They propose an integrated conceptual framework, arguing that attachment avoidance may foster both the tendency to objectify others and the perception of being objectified. However, their account remains primarily theoretical and focuses mainly on sexual and partner-directed objectification. Our work extends this framework by examining broader interpersonal contexts and empirically testing the specific attachment dimension—avoidance—that is most theoretically aligned with instrumental, distancing orientations toward others.

Several further arguments support our main hypothesis focused on attachment avoidance and its association with the tendency to objectify others. First, individuals with high levels of attachment avoidance—but not those with high levels of attachment anxiety—believe that other people are harmful, not protective, and untrustworthy (Borawski et al., 2022), which aligns with subjective uncertainty theory (Landau et al., 2012) and the social interaction model of objectification (Gervais et al., 2020). Second, individuals with high avoidance show lower empathic concern and reduced altruistic behavior toward both humans and animals, whereas attachment anxiety is not associated with these constructs (Capozza et al., 2022; Richman et al., 2015). Third, individuals with higher levels of attachment avoidance and anxiety tend to adhere to exchange norms in various relationships (Bartz & Lydon, 2004; Gasiorowska & Zaleskiewicz, 2023), whereas exchange relationships are associated with some forms of objectification (Wang et al., 2022). Taken together, these tendencies can clarify why high attachment avoidance fosters a negative view of others and a tendency to objectify them. Therefore, in this project, we predict that: **(Hypothesis 1)** Attachment avoidance is positively associated with objectification.

In contrast, because previous research on attachment anxiety has yielded mixed and inconsistent results, we did not formulate specific hypotheses regarding attachment anxiety.

1.3. The potential pathway of the connection between attachment and objectification

Recognizing oneself and others as sentient beings rather than mere objects entails the cognitive and emotional capacity to discern and interpret the thoughts and feelings of others. A central construct capturing the cognitive aspect is Theory of Mind (ToM), which refers to the ability to understand and attribute mental states of self and others (Premack & Woodruff, 1978). The development of both secure attachment and ToM is influenced by a caregiver's sensitivity to the child's mental state (Meins et al., 2002). This sensitivity facilitates ToM development, as children whose mothers more frequently discuss emotions and beliefs show more advanced ToM skills (Szpak & Białecka-Pikul, 2020). Daily interactions with a caregiver help the child feel understood and safe while fostering the language related to mental states, underscoring the role of early attachment in supporting ToM development.

Most research in this field has focused on childhood, whereas fewer investigations have examined ToM in adults, particularly among those with attachment styles other than secure. Bouchard et al. (2008) found that attachment insecurities were negatively related to the clarity and complexity of representations of the mental states of self and others in adults. Similarly, Henry et al. (2022) demonstrated that individuals high in attachment avoidance performed notably poorer in ToM tasks than those high in attachment security. These findings indicate that attachment is a fundamental individual factor in the study of ToM abilities, and that attachment avoidance may be especially detrimental to such capacities.

ToM is closely related to empathy but represents a distinct process. While ToM facilitates cognitive understanding of one's own and others' mental states, empathy involves understanding, sharing, and emotionally responding experiences of others (Preckel et al., 2018). Empathy enhances social interactions by motivating individuals to alleviate the negative emotions of others and engage in prosocial behavior (Lovett & Sheffield, 2007). Although ToM and empathy have traditionally been examined separately, growing evidence emphasizes that ToM and empathy are interrelated yet partially independent processes that jointly facilitate social understanding (Maliske et al., 2023). Moreover, both are protective factors that promote altruistic behaviors: individuals with higher levels of ToM abilities also exhibit greater empathy, which, in turn, leads to stronger reciprocal altruistic tendencies (Li et al., 2024).

The development of both ToM and empathy is closely linked to attachment relationships. Secure attachment fosters positive internal models of self and others, enhancing empathic responses and supporting effective coping mechanisms for managing negative emotions. In contrast, attachment insecurities, particularly attachment avoidance, are associated with impaired emotional understanding and diminished empathic responses, as individuals with this attachment style often rely on deactivating strategies to suppress their emotions (Bowlby, 1982; Henry et al., 2022; Stern & Cassidy, 2018). Recent meta-analyses confirm that attachment insecurity—especially avoidance—impairs understanding of one's own emotions and those of others (Walker et al., 2022).

Because ToM and empathy jointly—but not interchangeably—enable the recognition of others as fully human, deficits in either domain may contribute to dehumanization, defined as perceiving others as lacking inner mental states and treating them as objects. Empirical findings support this link: exposure to sexually objectified individuals decreases empathic responses (Cogoni et al., 2018), and lower empathy in adolescents is associated with greater online aggression (Brewer & Kerslake, 2015). Conversely, higher empathy promotes the perception of others as kind, trustworthy, and fully human (Gökalp & Inel, 2021). Additionally, not engaging with others' thoughts and emotions reinforces dehumanized perceptions, as shown in fMRI studies by Harris and Fiske (2007). Taken together, these findings suggest that both ToM and empathy support the perception of others as intentional, emotionally rich agents, thereby reducing objectification.

In line with this perspective, we conceptualize ToM and empathy as parallel, correlated processes that may independently and jointly be associated with lower levels of interpersonal objectification. Hence, we expect both capacities to be negatively associated with objectification and to partly account for why individuals high in attachment avoidance tend to objectify others. By contrast, given the inconsistent evidence regarding attachment anxiety, we did not formulate specific expectations for this dimension. Therefore, in this project, we hypothesize that **(Hypothesis 2**) the relationship between attachment avoidance and the inclination to objectify others is statistically accounted for by (H2a) ToM and (H2b) empathic abilities.

1.4. Overview of the studies

In three studies conducted in three different countries, we investigated the relationships between attachment insecurity and the objectification of others and tested some psychological pathways associated with these relationships. In all studies, we hypothesized that attachment avoidance was positively associated with objectification of others. We also expected that the relationship between attachment avoidance and objectification would be accounted for by the ToM, such that attachment avoidance would be negatively associated with the ToM, which in turn would be negatively associated with objectification (Studies 2 and 3). Given the importance of empathy as the ability to understand and take another's perspective, we also examined the indirect effect of attachment avoidance on the tendency to objectify others via empathy (Study 3). We did not have specific hypotheses for attachment anxiety.

Importantly, across studies, we intentionally varied our operationalizations and measures of key constructs. This methodological heterogeneity was designed to test the robustness of our findings and ensure they were not artifacts of specific measurement approaches. The consistency of results across different operationalizations of both attachment avoidance and objectification strengthens confidence in the generalizability of our conclusions.

All studies in this paper were conducted in accordance with the Declaration of Helsinki, APA ethical standards, and institutional guidelines, with approval from the Ethics Committee for Research in Humans at SWPS. Participants' privacy rights were protected, and informed consent was obtained. Data supporting the findings are available on OSF (https://osf.io/t864b). Study 3 was preregistered (https://osf.io/8eh2j).

1.5. Study 1

In Study 1, we aimed to provide initial evidence for whether attachment avoidance is related to objectification. We measured attachment dimensions with the Revised Adult Attachment Scale (Collins, 1996) and hence operationalized attachment avoidance as low levels of attachment closeness and attachment dependence. We measured objectification with a modified objectification scale (Gruenfeld et al., 2008). This tool was originally designed to assess a tendency for someone in a position of power to objectify a subordinate within a work context. However, Lachowicz-Tabaczek et al. (2021) successfully adapted this scale to measure the general interpersonal objectification, that is, the tendency to treat other people instrumentally, to perceive them as fungible, and to ignore their human attributes (Lachowicz-Tabaczek et al., 2021). We assumed that attachment avoidance, when controlling for attachment anxiety, would be negatively related to the objectification of others. We had no specific expectations regarding the respective relationship for attachment anxiety.

1.6. Participants and procedure

We calculated our sample size assuming an average correlation between attachment avoidance and objectification of $r = 0.20$ (Calkins

et al., 2023), α = 0.05, and power 1 - β = 0.95 (Faul et al., 2007). We found that the sample is large enough to detect this effect size with the expected power, and that it should include $n = 314$ participants. To account for potential attrition due to failed attention checks, we recruited 410 Polish students to participate in a study in exchange for credit points. Thirty-three participants were excluded as they did not correctly answer one of the two attention checks, leaving a final sample of $N = 377$ participants (190 women, 170 men, 10 other/not provided; age Mdn = 21, $M = 24.65$, $SD = 7.83$). Further sensitivity analysis revealed that such a sample was large enough to detect an effect of β = 0.15 for one predictor in a regression with two predictors, with power of 0.95 at α = 0.05.

After informed consent, participants provided demographic information and completed the two blocks described below, presented in random order via Qualtrics. The first block included the Revised Adult Attachment Scale (Adamczyk, 2012; Collins, 1996). The scale consists of 18 items measuring attachment anxiety (e.g., "I often worry that romantic partners don't really love me), closeness (e.g., "I find it relatively easy to get close to people"), and dependence (e.g., "I am comfortable depending on others"), with responses on a 5-point Likert scale. We reverse-coded items from closeness and dependence and averaged them to form an indicator of attachment avoidance. The second block included the objectification scale (Gruenfeld et al., 2008), adapted to measure the general interpersonal objectification (Lachowicz-Tabaczek et al., 2021), with responses on 7-point Likert scale (e.g., " I think more about what other people can do for me than what I can do for them").

2. Results and discussion

Descriptive statistics for each scale and zero-order correlations are presented in Table 1.

To test our research hypothesis, we performed a regression analysis with anxiety, closeness, and dependence as independent variables and objectification as a dependent variable. The overall model was significant, $F(2, 372) = 13.35$, $p < .001$, $R^2 = 0.062$. We found that attachment avoidance was positively related to objectification, β = 0.27, $se = 0.06$, $t = 4.76$, $p < .001$, 95%CI[0.16, 0.39], while attachment anxiety was not, β = −0.06, $se = 0.06$, $t = -1.03$, $p = .305$, 95%CI[−0.17, 0.05]. Hence, we provided initial evidence for the link between attachment avoidance and objectification of others measured as the propensity to treat others instrumentally.

2.1. Study 2

Our initial study supported the hypothesis that attachment avoidance is associated with a general tendency to objectify others. In Study 2, we aimed to replicate this result by using a different measure of attachment that directly taps attachment dimensions—the 12-item ECR-S scale (Wei et al., 2007), which assesses both attachment anxiety and avoidance. Moreover, we used a quasi-longitudinal design to assess whether attachment avoidance measured at one time point would be positively related to objectification measured six months later, and whether this link would be accounted for by ToM at Time 2. ToM was operationalized using selected items from the trait Theory of Mind scale (Hutchins et al., 2021), which captures individuals' perceived ability to infer others' thoughts and intentions. To rule out the alternative explanation that people with attachment avoidance tend to objectify others in general, not only others, we also included a measure of self-objectification at Time 2 (Lindner & Tantleff-Dunn, 2017). Within this approach, self-objectification is defined as thinking of the body as an outside observer would, valuing the body more for what it looks like than for what it can do, and treating the body as if it can represent the self as a person (Lindner & Tantleff-Dunn, 2017).

We hypothesized the link between attachment avoidance and objectification but not self-objectification, and the indirect effect via the ToM. We again did not have specific expectations regarding the associations for attachment anxiety. Additionally, we performed a robustness check of our results: as all our variables of interest are to some extent correlated with personality traits (e.g., Lachowicz-Tabaczek et al., 2025; Nettle & Liddle, 2008; Noftle & Shaver, 2006), we tested whether the abovementioned relationships hold after controlling for such traits as measured with Hexaco scale (Ashton & Lee, 2009).

Table 1
Descriptive statistics for each scale and zero-order correlations (Study 1).

Variable	*M*	*SD*	α	1	2	3
1. Age	24.60	7.88	–	–		
2. Attachment anxiety	2.88	0.99	0.85	−0.25***	–	
3. Attachment avoidance	2.57	0.72	0.86	−0.15**	0.57***	–
4. Objectification	2.44	0.94	0.86	−0.02	0.10	0.25***

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

2.2. Participants and procedure

We calculated our sample size assuming the same effect size as in Study 1 ($r = 0.20$), α = 0.05, and power 1 - β = 0.95 (Faul et al., 2007), and found that the sample large enough to detect such an effect size with expected power should include $n = 314$ participants. However, because we also aimed to test indirect effects through the ToM and had no prior basis for estimating their magnitude, we adopted a conservative approach by doubling the target sample size to 628 participants. This strategy follows recommendations to use substantially larger samples when testing effects of uncertain size (Lakens, 2022).

The study comprised two phases. Accounting for potential attrition over the six-month period of the study, we decided to invite at least 1000 participants to the first survey. Hence, in the first phase, $N = 1055$ U.K. participants from Prolific Academic (Palan & Schitter, 2018) completed an online survey. One hundred seventy-four participants were excluded due to failing at least one of the three attention checks. The remaining group was invited half a year later to participate in a second part of the study, and 589 individuals responded within the next 4 days. At this point, 29 participants were excluded: 26 for failing at least one of the two attention-check questions, and three for having participant IDs that did not match those collected in the first phase. The final sample included $N = 560$ participants (276 women, 280 men, 4 other/not provided; age Mdn = 44, $M = 46.52$, $SD = 20.15$). Sensitivity Monte Carlo power analysis for mediation models (Schoemann et al., 2017) revealed that this sample size would be able to detect an indirect effect of $ab = 0.03$ at a significance α level = 0.05 with a power of 0.95.

In the first phase, participants provided informed consent and completed several questionnaires presented in random order as part of the larger study. Among them, we included the 12-item version of the Experience in Close Relationship Scale (ECR-S; Wei et al., 2007), measuring attachment anxiety (e.g., "I get frustrated if romantic partners are not available when I need them") and avoidance (e.g., "I am nervous when partners get too close to me"), and the 60-item version of the HEXACO personality scale, measuring emotionality ("I would feel afraid if I had to travel in bad weather conditions"), extraversion ("I feel reasonably satisfied with myself overall"), agreeableness (e.g., "I rarely hold a grudge, even against people who have badly wronged me"), conscientiousness (e.g., "I plan ahead and organize things, to avoid scrambling at the last minute"), openness to experience (e.g., "I'm interested in learning about the history and politics of other countries"), and honesty-humility ("I wouldn't use flattery to get a raise or promotion at work, even if I thought it would succeed") (Ashton & Lee, 2009). The second part of the study included three questionnaires: 28 items chosen from the ToM scale (Hutchins et al., 2021) measuring the ToM as a trait (e.g., "I can tell when others are being insincere"), the same Objectification scale as in Study 1 (Gruenfeld et al., 2008; Lachowicz-Tabaczek

et al., 2021), and the Self-objectification beliefs and behaviors scale (e.g., "How I look is more important to me than how I think or feel") (Lindner & Tantleff-Dunn, 2017). All questions were answered using a 7-point Likert scale. The order of questionnaires and the order of items within questionnaires were randomized.

3. Results and discussion

Descriptive statistics for each scale, and zero-order correlations are presented in Table 2.

To test our first hypothesis, we conducted path analysis using JAMOVI (The jamovi project, 2025). In this model, attachment anxiety and avoidance at Time 1 were independent variables, the ToM at Time 2 was a mediator, while objectification and self-objectification at Time 2 were correlated dependent variables. As a robustness check, we fitted the second model, in which we added six personality dimensions as covariates of both dependent variables. In both models, we estimated total, direct, and indirect effects with a confidence interval of 95% using bootstrapping with 10,000 samples.

In the first regression (Model 1 in Table 3 and Fig. 1), supporting our hypotheses, we found a significant total effect of attachment avoidance on the objectification of others but not on self-objectification. Additionally, although we did not have any expectations about the effects of attachment anxiety, we found that its total effects on the objectification of others and on self-objectification were positive and significant. Both attachment anxiety and avoidance were negatively associated with ToM. Furthermore, ToM was negatively linked with the objectification of others but positively with self-objectification. Controlling for the mediator, the direct effect of attachment avoidance on the objectification of others was significant, but its direct effect on self-objectification was not. Moreover, the direct effects of attachment anxiety on the objectification of others and self-objectification were significant. Most importantly, and in line with our hypotheses, the indirect effect of attachment avoidance on the objectification of others through the ToM was significant and stronger than its indirect effect on self-objectification. Furthermore, the indirect effects of attachment anxiety on the objectification of others and self-objectification via ToM were nonsignificant.

After adding HEXACO personality traits as covariates in the second model (Model 2 in Table 3), the total effect of attachment avoidance on objectification of others became non-significant, but its indirect effect via ToM remained significant. Additionally, the total and indirect effects of attachment anxiety on the objectification of others remained unaffected. These results potentially indicate that part of the association between avoidance and objectification overlaps with general personality dimensions (e.g., low Agreeableness), but some portion is specifically related to individual differences in ToM.

In conclusion, we replicated the significant association between attachment avoidance and objectification found in Study 1 and ruled out the alternative explanation that it might also be related to self-objectification. Additionally, supporting our hypothesis H2a, we found the indirect effect of attachment avoidance on the objectification of others via the ToM, suggesting a potential pathway.

3.1. Study 3

In previous studies, we showed that attachment avoidance was associated with the general tendency to objectify others, and that this association was statistically accounted for by ToM. Study 3 was designed to replicate and integrate these findings, with some important modifications. First, in Study 3 we extended our operationalization of the dependent variable to capture objectification more comprehensively. Specifically, while the objectification scale used in Studies 1 and 2 primarily assessed the instrumentality dimension (i.e., treating others as tools or means to an end), we now also included a measure of the attribution of humanity (Haslam et al., 2008). In this tool, people are given a list of different feelings and mental states prototypical for human beings, including perception, intentions, thoughts, and emotions, and are asked to indicate how much they think the people they interact with in everyday life are capable of experiencing them (Haslam et al., 2008). This addition is theoretically important because instrumentality and the lack of attribution of humanity constitute two fundamental aspects of objectifying others. These dimensions are strongly associated with each other, reflecting different facets of the broader objectification construct.

Second, in the Study 1 we tested only one mediator, namely the ToM. In Study 2 we additionally investigated whether empathy, conceptualized as an affective variable parallel and correlated with ToM, accounts for the effect of attachment avoidance on the tendency to objectify others, reflecting the idea that difficulties in sharing and responding to others' emotions—alongside deficits in understanding their mental states—may jointly contribute to perceiving others as objects rather than sentient beings.

Finally, the forms and levels of attachment anxiety and avoidance also depend on contextual and cultural factors. For example, some research suggests that adults from Eastern Europe (e.g., Poland or Hungary) have more preoccupied attachment than Western Europeans (e.g., the Netherlands) (Polek et al., 2008). Therefore, in this study, we investigated whether a similar pattern of findings may also emerge in yet another European country other than Poland (Study 1) or the UK (Study 2), specifically Italy.

3.2. Participants and procedure

We conducted an a priori Monte Carlo power analysis for mediation models (Schoemann et al., 2017) to determine the sample size required to detect an indirect effect similar to what we found in the previous study, that is $ab = 0.04$. We found that a sample of 273 participants will be sufficient to detect such an effect with significance $\alpha = 0.05$ and power $1 - \beta = 0.80$. Factoring for potential exclusions due to failed attention checks, we recruited $N = 290$ Italian participants through

Table 2
Descriptive statistics for each scale and zero-order correlations (Study 2).

Variable	*M*	*SD*	α	1	2	3	4	5	6
1. Age	46.50	20.10	–	–					
2. Attachment anxiety	3.15	1.23	0.78	−0.11**	–				
3. Attachment avoidance	2.42	1.12	0.84	0.06	0.23***	–			
4. ToM	5.64	0.80	0.95	0.04	−0.15***	−0.23***	–		
5. Objectification	2.49	0.94	0.85	−0.17***	0.18***	0.19***	−0.21***	–	
6. Self-objectification	2.42	0.81	0.92	−0.13**	0.35***	0.14**	0.03	0.31***	–
7. Emotion	3.23	0.66	0.78	−0.03	0.38***	−0.07	0.05	−0.16***	0.25***
8. Extraversion	3.08	0.74	0.84	0.13**	−0.31***	−0.35***	0.26***	−0.09*	−0.11**
9. Agreeableness	3.27	0.61	0.82	0.12**	−0.30***	−0.19***	0.21***	−0.27***	−0.18***
10. Conscientiousness	3.74	0.57	0.77	0.12**	−0.21***	−0.22***	0.22***	−0.19***	−0.09*
11. Openess to experience	3.49	0.75	0.82	0.00	0.02	−0.08*	0.21***	−0.16***	−0.09*
12. Honesty-humility	3.60	0.67	0.75	0.13**	−0.21***	−0.16***	0.09*	−0.45***	−0.31***

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

Table 3
The effect of attachment avoidance and anxiety on the objectification of others and self-objectification via ToM (Study 2).

Paths	Model 1				Model 2			
	β	*se*	95%CI	*p*	β	*se*	95%CI	*p*
Structural paths								
Avo → ToM	−0.20	0.04	[−0.29, −0.12]	0.001	−0.20	0.04	[−0.29, −0.12]	0.001
Anx → ToM	−0.10	0.05	[−0.20, −0.01]	0.041	−0.10	0.05	[−0.20, −0.01]	0.040
ToM → GENOBJ	−0.16	0.04	[−0.25, −0.07]	0.001	−0.09	0.04	[−0.17, −0.01]	0.028
ToM → SELFOBJ	0.10	0.04	[0.01, 0.19]	0.019	0.12	0.04	[0.03, 0.21]	0.008
Total Effects								
Avo → GENOBJ	0.15	0.04	[0.07, 0.24]	0.001	0.05	0.04	[−0.02, 0.13]	0.185
Anx → GENOBJ	0.14	0.04	[0.06, 0.22]	0.001	0.13	0.05	[0.04, 0.22]	0.006
Avo → SELFOBJ	0.06	0.05	[−0.03, 0.15]	0.210	0.05	0.05	[−0.04, 0.15]	0.249
Anx → SELFOBJ	0.34	0.04	[0.25, 0.42]	0.001	0.23	0.05	[0.14, 0.32]	0.001
Direct Effects								
Avo → GENOBJ	0.12	0.04	[0.03, 0.21]	0.007	0.04	0.04	[−0.04, 0.11]	0.375
Anx → GENOBJ	0.12	0.04	[0.04, 0.21]	0.003	0.12	0.05	[0.03, 0.21]	0.010
Avo → SELFOBJ	0.08	0.05	[−0.01, 0.17]	0.088	0.08	0.05	[−0.01, 0.17]	0.092
Anx → SELFOBJ	0.35	0.04	[0.26, 0.43]	0.001	0.24	0.05	[0.16, 0.33]	0.001
Covariances								
Avo ←→ Anx	0.23	0.04	[0.15, 0.31]	0.001	0.23	0.04	[0.15, 0.31]	0.001
GENOBJ ←→ SELFOBJ	0.24	0.04	[0.16, 0.32]	0.001	0.16	0.04	[0.09, 0.23]	0.001
Covariates								
Honesty → GENOBJ					−0.34	0.04	[−0.27, −0.36]	0.001
Emotion→ GENOBJ					−0.20	0.04	[−0.29, −0.12]	0.001
Extra → GENOBJ					0.05	0.04	[−0.04, 0.13]	0.290
Agree → GENOBJ					−0.16	0.04	[−0.24, −0.07]	0.001
Cons → GENOBJ					−0.05	0.05	[−0.12, 0.03]	0.207
Open → GENOBJ					−0.09	0.04	[−0.16, −0.02]	0.014
Honesty → SELFOBJ					−0.25	0.04	[−0.33, −0.16]	0.001
Emotion → SELFOBJ					0.17	0.04	[0.08, 0.25]	0.001
Extra → SELFOBJ					0.02	0.05	[−0.07, 0.12]	0.677
Agree → SELFOBJ					−0.01	0.05	[−0.11, 0.08]	0.783
Cons → SELFOBJ					0.02	0.04	[−0.06, 0.10]	0.627
Open → SELFOBJ					−0.11	0.04	[−0.18, −0.03]	0.005
Indirect Effects								
Avo → ToM → GENOBJ	0.03	0.01	[0.01, 0.06]		0.02	0.01	[0.002, 0.04]	
Anx → ToM → GENOBJ	0.02	0.01	[−0.001, 0.04]		0.01	0.01	[−0.001, 0.02]	
Avo → ToM → SELFOBJ	−0.02	0.01	[−0.04, −0.00]		−0.03	0.01	[−0.05, −0.01]	
Anx → ToM → SELFOBJ	−0.01	0.01	[−0.03, 0.001]		−0.01	0.01	[−0.03, −0.001]	

Note: Anx = Attachment Anxiety, Avo = Attachment avoidance, ToM = Theory of Mind, GENOBJ = Objectification of Others, SELFOBJ = Self-objectification, Honesty = Honesty-humility, Emotion = Emotionality, Extra = Extraversion, Agree = Agreeableness, Cons = Conscientiousness, Open = Openness to experience.

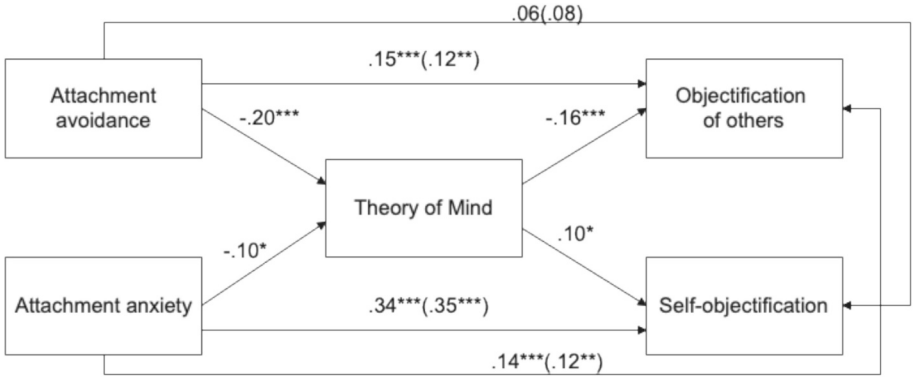

Fig. 1. The effect of attachment avoidance and anxiety on the objectification of others and self-objectification via ToM (Study 2). Standardized path coefficients. ***$p < .001$, **$p < .01$, *$p < .05$.

Prolific Academic (Palan & Schitter, 2018). Five participants were excluded due to failing at least one of the three attention check questions, leaving a final sample of 285 participants (136 women, 142 men, 7 other/no response; age Mdn = 29, $M = 31.87$, $SD = 9.52$).

After providing informed consent, participants completed an online survey consisting of five scales presented in randomized order: (1) the Italian version of the Experience in Close Relationship Scale 12 (ECR-12; Brugnera et al., 2019) measuring attachment anxiety and attachment avoidance; (2) an Italian version of the ToM scale (Hutchins et al., 2021); (3) the Italian Brief Version of Interpersonal Reactivity Index (Diotaiuti et al., 2021) measuring empathy; (4) an Italian version of the Objectification scale (Gruenfeld et al., 2008; Lachowicz-Tabaczek et al., 2021) to assess the tendency to objectify others; (5) an Italian version of the Mental State Attribution (MSA) task (Haslam et al., 2008) to measure the attribution of humanity.

At the end of the survey, participants were briefly asked socio-

demographic information, including age, gender, income, and socio-economic status (for more details about these measures, see the SOM).

4. Results and discussion

Table 4 reports descriptive statistics and zero-order correlations for the measures used in the study.

To examine our preregistered hypotheses, we used structural equation modeling with Mplus 8.10 with the maximum likelihood estimator. We tested two models predicting our dependent variables (objectification and attribution of humanity) with attachment avoidance and anxiety as independent variables, and ToM and empathy as parallel mediators. We estimated total, direct, and indirect effects using a bias-corrected bootstrap with 10,000 bootstrap samples and 95% confidence intervals. We assessed model fit through several established indices: the root mean square error of approximation (RMSEA), the comparative fit index (CFI), and the Tucker Lewis index (TLI). Following recommended practices, we employed multiple fit indices to obtain a comprehensive and robust evaluation of model adequacy (Brown, 2015; Hu & Bentler, 1999). Acceptable model fit was indicated by RMSEA and SRMR values below 0.08, CFI and TLI values above 0.90, and excellent fit by values below 0.06 for RMSEA and SRMR, and above 0.95 for CFI and TLI.

The model with general objectification as the DV was well fitted to the data in the light of all indices, RMSEA = 0, 90%CI [0, 0.0], CFI = 1, TLI = 1, SRMR = 0. In line with our hypothesis, the total effect of attachment avoidance on the dependent variable was significant and positive, such that people high in attachment avoidance declared a higher tendency to objectify others. Additionally, we also found a significant total effect of attachment anxiety (see Table 5 and Fig. 2). As hypothesized, attachment avoidance was negatively related to ToM and empathy. Attachment anxiety was not associated with ToM, but it was positively associated with empathy. ToM was positively correlated with empathy, and both ToM and empathy were negatively related to the dependent variable. Controlling for the two mediators, the direct effects of attachment avoidance and attachment anxiety were positive and significant.

Most importantly, supporting our research hypothesis H2a, the indirect effect of attachment avoidance on the dependent variable via ToM was positive and significant. Moreover, supporting our hypothesis H2b, the indirect effect of attachment avoidance on the dependent variable via empathy was also positive and significant. Additionally, the indirect effect of attachment anxiety on the dependent variable via ToM was not significant, while the indirect effect via empathy was significant and negative (see Table 5 and Fig. 2A).

The model with attribution of humanity as the DV was well fitted to the data in the light of all indices, RMSEA = 0, 90%CI [0, 0.0], CFI = 1, TLI = 1, SRMR = 0. In line with our hypothesis, the total effect of attachment avoidance on the dependent variable was significant and negative, such that people high in attachment avoidance attributed higher levels of humanity to other people, indicative of lower objectification tendencies. Additionally, the total effect of attachment anxiety was not significant (see Table 5 and Fig. 2B). Again, attachment avoidance was negatively related to ToM and empathy. Attachment anxiety was not associated with ToM, but it was positively associated with empathy. ToM was positively correlated with empathy, and both mediators were positively related to the dependent variable. Controlling for the two mediators, the direct effects of attachment avoidance and attachment anxiety were not significant.

Most importantly, again supporting our research hypothesis H2a, the indirect effect of attachment avoidance on the dependent variable via ToM was negative and significant. Moreover, supporting our hypothesis H2b, the indirect effect of attachment avoidance on the dependent variable via empathy was also negative and significant. Additionally, the indirect effect of attachment anxiety on the dependent variable via ToM was not significant, while the indirect effect via empathy was significant and positive (see Table 5 and Fig. 2).

In conclusion, in line with our Hypothesis 1 and consistent with previous studies, we found that attachment avoidance was positively associated with objectification, operationalized as a high level of general objectification and low levels of attributing humanity to others. Additionally, in line with our Hypothesis 2a, we observed the indirect effect via ToM from attachment avoidance to both operationalizations of our dependent variable. Importantly, we also found a significant indirect effect via empathy, supporting our Hypothesis 2b. This pattern of results aligns with our reasoning that ToM and empathy are intercorrelated but independent pathways that account for the link between attachment avoidance and objectification.

Concerning attachment anxiety, we found mixed results: it was significantly associated with general objectification but not with the attribution of humanity. Furthermore, we found a significant positive indirect effect of anxiety via empathy on attribution of humanity, and a negative indirect effect on general objectification. In contrast, the indirect effects via the ToM were not significant.

Finally, as a robustness check, we reanalyzed our results, controlling for socio-demographic variables, including gender, income, and socio-economic status, and demonstrated that our effects of interest remained significant (for more details, see Supplementary Online Materials).

4.1. General discussion

In this project, we hypothesized that attachment avoidance is linked to objectification, and this association is statistically accounted for by the ToM and empathy. We tested these hypotheses in three studies conducted in Poland, the UK, and Italy. In Study 1, we demonstrated that attachment avoidance, conceptualized as a low level of closeness and dependency, was positively associated with objectification, whereas we found no such association for attachment anxiety. In Study 2, we found that both attachment avoidance and attachment anxiety were positively associated with objectification of others, but we observed the indirect effect via ToM for attachment avoidance only. After adding HEXACO personality traits as covariates in the second model, the total effect of attachment avoidance on objectification of others became non-

Table 4
Descriptive statistics for each scale and zero-order correlations (Study 3).

Variable	*M*	*SD*	α	1	2	3	4	5	6	7	8
1. Age	31.87	9.52	–	–							
2. Income	1.72	0.81	–	0.15*	–						
3. Socio-economic status	5.50	1.49	–	0.11	0.47***	–					
4. Attachment anxiety	4.00	1.31	0.86	−0.27***	−0.13*	−0.13*	–				
5. Attachment avoidance	2.64	1.17	0.89	0.10	−0.03	−0.02	0.11	–			
6. Theory of Mind	5.24	0.68	0.93	−0.09	−0.08	−0.15*	0.25***	−0.20***	–		
7. Empathy	4.84	0.68	0.79	−0.01	0.09	0.12*	0.01	−0.28***	0.37***	–	
8. Objectification	2.50	0.91	0.85	−0.10*	−0.04	0.01	0.18**	0.27***	−0.27***	−0.27***	
9. Attribution of humanity	5.34	0.76	0.93	−0.20**	0.00	0.07	0.06	−0.13*	0.24***	0.27***	−0.14**

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

Table 5
The effects of attachment avoidance and anxiety on the objectification of others and attribution of humanity via ToM and empathy as parallel mediators. Study 3.

	DV = objectification of others				DV = attribution of humanity			
Paths	β	*se*	95%CI	*p*	β	*se*	95%CI	*p*
Structural paths								
Avo → ToM	−0.28	0.06	[−0.39, −0.16]	0.001	−0.28	0.06	[−0.39, −0.16]	0.001
Anx → ToM	0.04	0.06	[−0.09, 0.17]	0.522	0.04	0.06	[−0.09, 0.17]	0.522
Avo → Emp	−0.23	0.06	[−0.34, −0.12]	0.001	−0.23	0.06	[−0.34, −0.12]	0.001
Anx → Emp	0.27	0.06	[0.16, 0.38]	0.001	0.27	0.06	[0.16, 0.38]	0.001
ToM → Emp	0.34	0.06	[0.22, 0.45]	0.001	0.34	0.06	[0.22, 0.45]	0.001
ToM → DV	−0.14	0.06	[−0.27, −0.01]	0.039	0.20	0.07	[0.05, 0.34]	0.007
Emp → DV	−0.24	0.06	[−0.35, −0.13]	0.001	0.15	0.07	[0.02, 0.29]	0.026
Total effects								
Avo → DV	0.25	0.06	[0.13,0.36]	0.001	−0.13	0.06	[−0.26, −0.004]	0.038
Anx → DV	0.15	0.06	[0.03, 0.26]	0.012	0.07	0.06	[−0.05, 0.20]	0.246
Direct effects								
Avo → DV	0.15	0.06	[0.04, 0.26]	0.007	−0.04	0.06	[−0.17, 0.09]	0.505
Anx → DV	0.22	0.06	[0.10, 0.34]	0.001	0.02	0.06	[−0.10, 0.14]	0.700
Covariances								
Avo ←→ Anx	0.11	0.07	[−0.04, 0.25]	0.134	0.11	0.07	[−0.04, 0.25]	0.134
ToM ←→ Emp	0.34	0.06	[0.22, 0.45]	0.001	0.34	0.06	[0.22, 0.45]	0.001
Indirect Effects								
Avo → ToM → DV	0.04	0.02	[0.004, 0.09]	0.090	−0.06	0.03	[−0.12, −0.01]	0.034
Anx → ToM → DV	−0.01	0.01	[−0.04, 0.01]	0.599	0.01	0.01	[−0.01, 0.04]	0.562
Avo → Emp → DV	0.06	0.02	[0.03, 0.10]	0.002	−0.03	0.02	[−0.07, −0.01]	0.042
Anx → Emp → DV	−0.07	0.02	[−0.11,-0.03]	0.002	0.04	0.02	[0.01, 0.09]	0.043

Note: Avo = Attachment avoidance; Anx = Attachment Anxiety; ToM = Theory of Mind; Emp = Empathy.

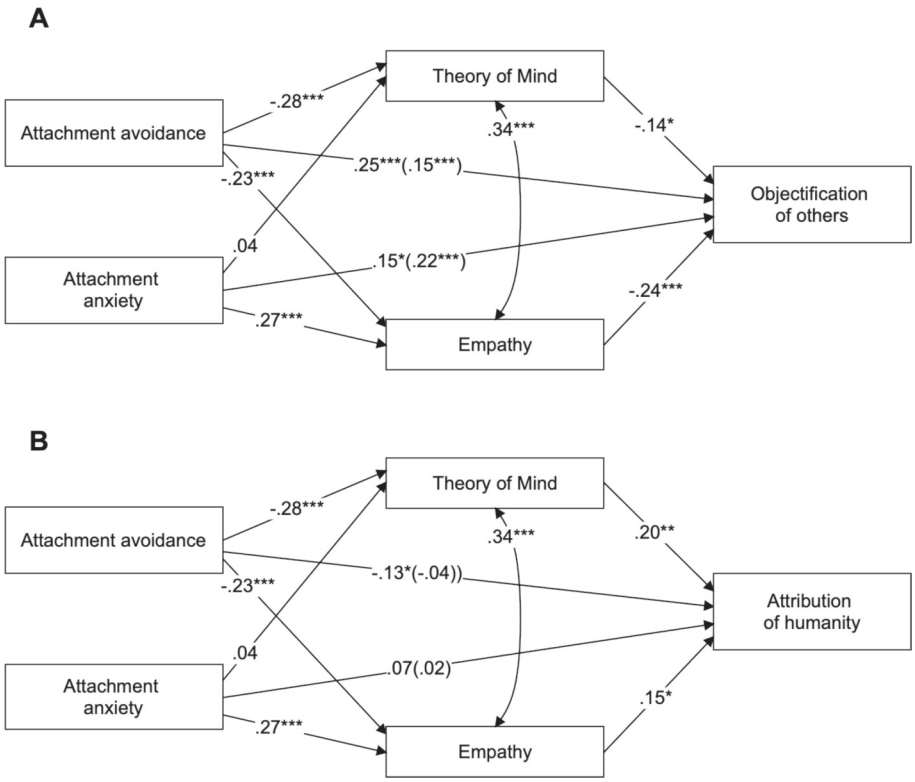

Fig. 2. The effects of attachment avoidance and anxiety on the objectification of others (Panel A) and attribution of humanity (Panel B) via ToM and empathy as parallel mediators. Study 3.

significant, but its indirect effect via ToM remained significant. In Study 3, we operationalized objectification as a latent variable that encompasses both high levels of instrumentalizing others and low levels of attributions of humanness and included empathy as an additional mediator of the relationship of interest. We replicated and extended the results of Study 2, showing that the association between attachment avoidance and objectification was linked to individual differences in ToM and empathy. Taken together, these findings indicate that attachment avoidance is reliably associated with the objectification and dehumanization of others, with ToM and empathy partially accounting for this link.

4.2. Theoretical implications

Attachment avoidance and anxiety are two insecure internal working models that shape how individuals perceive themselves and others (Theisen et al., 2018). Both are associated with compensatory behaviors aimed at regulating discomfort in close relationships, but they differ in motivational focus: individuals high in avoidance prioritize independence over intimacy, whereas those high in anxiety do the opposite (Ren et al., 2017). Consequently, attachment avoidantce undermines relational functioning through emotional suppression, withdrawal, and low empathy, ultimately sustaining interpersonal distance and reduced intimacy (Pepping & MacDonald, 2019). Such emotional distancing may foster a detached view of others, promoting relationships based on utility rather than mutual recognition. In this sense, objectification can be viewed as a defensive strategy that helps individuals high in avoidance manage discomfort with intimacy and vulnerability. Moreover, deficits in socio-cognitive capacities such as mentalizing, perspective taking, and empathy, which are linked to early caregiving experiences and adult relational withdrawal (Henry et al., 2022; Szpak & Białecka-Pikul, 2020), may further contribute to perceiving others in instrumental or dehumanized terms.

The findings of our studies provide empirical support for these theoretical considerations, revealing a consistent pattern of associations between attachment avoidance and interpersonal objectification. This link was partially accounted for by differences in ToM and empathic abilities, as higher levels of attachment avoidance were associated with lower mentalizing and empathy skills which, in turn, were linked to people's objectifying tendencies. However, the total effect of attachment avoidance on the objectification of others became non-significant after controlling for the HEXACO personality traits, while the indirect effect via ToM remained significant. This pattern suggests that part of the association between attachment avoidance and objectification overlaps with broader personality characteristics—particularly low Agreeableness, which has been found to correlate with both attachment avoidance and objectification tendencies (e.g., Lachowicz-Tabaczek et al., 2025; Nettle & Liddle, 2008; Noftle & Shaver, 2006). However, the persistence of the indirect path through ToM indicates the avoidance-objectification link cannot be fully explained by general personality traits. Instead, it points to a more specific link: individuals high in attachment avoidance may show deficits in ToM that, in turn, contribute to the objectification of others, independently of Agreeableness. Thus, while personality factors clearly play a role, our findings suggest that mentalizing capacities uniquely mediate how attachment-related avoidance translates into interpersonal objectification.

Preckel et al. (2018) distinguish empathy and ToM as separate constructs: empathy involves sharing others' emotions, which can lead to maladaptive outcomes such as empathic distress, whereas ToM is a cognitive process that focuses on understanding others' thoughts and intentions. This suggests that the pathways linking attachment insecurities to different dimensions of empathy may differ. Specifically, individuals high in attachment avoidance tend to ignore others' emotions, whereas those high in attachment anxiety use hyperactivating strategies, potentially leading to greater empathic distress (Kural & Kovács, 2022). Our findings support this distinction, showing that attachment avoidance is associated with objectifying others through both low levels of ToM and empathic skills. Individuals with attachment avoidance tend not to feel compassion toward others (Pan et al., 2022), which may contribute to this objectification. In contrast, the relationship between attachment anxiety and objectification appears more complex. While we found a positive direct effect, the negative indirect effect via empathy suggests a suppression effect. This may be explained by previous studies indicating that people with attachment anxiety feel distress and compassion when others suffer but struggle to take others' perspectives—an impairment that may increase the risk of objectifying others (Kural & Kovács, 2022; David et al., 2021). Thus, individuals with higher attachment anxiety tend to exhibit elevated levels of both personal distress and empathic concern in response to others' suffering (Ardenghi et al., 2022), while this may appear adaptive, such heightened affective reactivity often leads to emotional flooding, increased vulnerability to rejection sensitivity, and overinvolvement in others' emotions, which, in turn, may increase the objectification of others as a self-protective strategy. However, future research is needed to confirm and further explore this pathway.

Moreover, Wei et al. (2011) found that attachment avoidance—but not attachment anxiety—was linked to reduced emotional sharing, whereas Peng et al. (2023) reported that both attachment avoidance and anxiety were negatively associated with affective empathy but not cognitive empathy. Given inconsistencies in the literature, these discrepancies highlight the need for further research examining different aspects of empathy and their relationship with attachment insecurities.

Importantly, our findings extend the recent theoretical framework proposed by Calkins et al. (2023). While they outlined how attachment insecurity may contribute to objectification, their model remained largely conceptual and focused primarily on sexual and partner-directed forms of objectification. In contrast, our results demonstrate that these processes generalize to broader interpersonal contexts and provide empirical evidence for the socio-cognitive mechanisms underlying this link. By identifying ToM and empathy as distinct pathways and by ruling out personality traits as the sole explanatory factors, our work advances and specifies the processes proposed by Calkins et al. (2023), offering a more nuanced, mechanism-based account of how attachment avoidance shapes objectifying perceptions of others.

4.3. Alternative psychological processes

What else, other than mentalizing and empathy, can explain the fact that attachment avoidance is related to objectification? Avoidant individuals often seek to maintain control in relationships and limit others' influence (Morera et al., 2022), and they also use power as a strategy to restrict other people's influence (Overall, 2019). In this regard, the Social Interaction Model of Objectification (SIMO) proposes that power differences—particularly gendered ones—are responsible for the sexual objectification of others in men and self-objectification in women (Gervais et al., 2020). Indeed, elevated feelings of power, even outside the gendered context, hinder perspective-taking (Galinsky et al., 2006) and induce objectification (Gruenfeld et al., 2008). Thus, heightened power motives may help explain why individuals high in avoidance rely on more instrumental, person-as-means relational strategies.

In addition, people with high levels of attachment avoidance are highly self-reliant, prefer relational arrangements that maximize autonomy, and tend to prefer market-based solutions to their problems rather than asking for communal help (Gasiorowska & Zaleskiewicz, 2021, 2023). These findings suggest a positive relationship between attachment avoidance and endorsing a market-based mindset when reaching out to others. Moreover, Kuzminska et al. (2023) demonstrated that market relationships based on cost-benefit analysis reduce empathy and trust. Such calculative modes of thinking have also been shown to foster objectification (Wang et al., 2022).

Thus, both the pursuit of power and a market-based relational orientation may constitute additional processes linking attachment avoidance to objectification, alongside deficits in mentalizing and empathy. However, these potential mechanisms were not directly measured in the present studies. Consequently, we cannot rule out the possibility that power motives or market-oriented thinking account, at least in part, for the observed relationship between attachment avoidance and objectification. Future research should therefore incorporate measures of interpersonal power, control motivation, and market-based cognition to test their mediating roles and clarify how these factors interact with mentalizing and empathy in explaining objectification tendencies.

4.4. Practical implications for future interventions

Understanding the predictors of objectification may help develop future interventions to mitigate these tendencies. Based on our findings, we suggest that interventions aimed at promoting attachment security, perspective-taking, and empathy are promising targets. Indeed, Cittern and Edalat (2017) recommended attachment-based interventions to enhance empathic skills and alleviate personal distress. Recent experimental studies support this possibility, showing that people who feel protected, cared for, and loved show less aggressive behaviors, and this effect is mediated by lower dehumanization (Zhang et al., 2015). When people feel secure with an attachment figure, they are more likely to show compassion and altruism (Mikulincer & Shaver, 2005), qualities that counteract objectification. Even merely primed attachment security reduces the tendency to dehumanize oneself and others (Capozza et al., 2022; Guo et al., 2024). Therefore, interventions that integrate attachment security with the training of ToM and emotion-understanding skills may be particularly effective in reducing objectification tendencies.

4.5. Limitations and future research

Although the current research provides important insights into how attachment avoidance relates to interpersonal objectification, several limitations should be noted. First, our assessment of ToM relied on self-report measures, which may capture perceived rather than actual mentalizing ability. Future work should incorporate performance-based assessments such as the Movie for the Assessment of Social Cognition Test (MASC; Dziobek et al., 2006) to more accurately evaluate under- and over-mentalizing tendencies. Similarly, we examined empathy as a unidimensional construct, even though it includes distinct cognitive and affective components that may differentially relate to attachment avoidance, anxiety, and the objectification of others (Preckel et al., 2018). Using multidimensional measures of empathy would allow for a more precise test of these pathways. Second, aside from one quasi-longitudinal design, our studies were cross-sectional, limiting causal inference. Experimental manipulations of attachment states, activating avoidance vs. anxiety vs. different control conditions (Gillath et al., 2009) would clarify the directionality of effects and strengthen causal claims. Third, although our samples were collected in Italy, Poland, and the UK, all participants were of European origin. Cultural differences in attachment (Joo et al., 2025) and mental-state reasoning (B. Park et al., 2022) suggest that future work should test whether these associations generalize across broader cultural contexts. Formal multi-group analyses would help determine whether the observed mechanisms are culturally invariant. Finally, although personality traits—particularly low Agreeableness—reduced the total effect of attachment avoidance on objectification, the indirect effect via ToM remained robust. This indicates that socio-cognitive mechanisms cannot be reduced to broad personality dimensions. Future research should examine how personality, attachment, and mentalizing jointly shape objectifying tendencies.

Overall, despite these limitations, our findings consistently show that attachment avoidance predicts interpersonal objectification through reduced mentalizing, supporting the robustness of this pathway across multiple samples.

CRediT authorship contribution statement

Emrullah Ecer: Writing – review & editing, Writing – original draft, Visualization, Validation, Software, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Giuseppe Raguso:** Writing – review & editing, Writing – original draft, Validation, Software, Resources, Project administration, Methodology, Investigation, Data curation, Conceptualization. **Luca Andrighetto:** Writing – review & editing, Writing – original draft, Visualization, Supervision, Software, Resources, Project administration, Investigation, Formal analysis, Data curation, Conceptualization. **Agata Gasiorowska:** Writing – review & editing, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.actpsy.2026.106399.

Data availability

We confirm that the data described in the manuscript are available on OSF https://osf.io/t864b/.

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