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## Anxious and status signaling: Examining the link between attachment style and status consumption and the mediating role of materialistic values

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### ABSTRACT

Attachment theory has recently been recognized as a potentially fruitful avenue for studying consumer behavior. However, few studies have examined the relationship between attachment styles and consumer preferences. Based on literature suggesting that individuals with an anxious attachment style have a particularly strong need for attention, we conducted two studies with a total sample of over 2000 participants, which tested and found that anxiously attached consumers displayed a higher propensity to purchase status-signaling goods than their counterparts with secure attachment styles. This effect was mediated by materialistic values, such that participants with an anxious attachment style reported the highest materialistic values. Additionally, we found mixed evidence for the relationship between an avoidant attachment style, materialism, and status consumption. Together, these findings highlight the importance of attachment theory in the study of status consumption and offer potential implications for research on social status and related research areas.

### 1. Introduction

When Donald Trump ran for president, he claimed to have financed an extremely expensive campaign out of his own pocket and conspicuously communicated about his ample assets, possibly exaggerating his net worth. The media often featured his opulent Manhattan apartment, adorned with gold, marble, and a diamond-studded front door. Such an apartment exemplifies the former president's penchant for owning pricey possessions and things that signal status. The author of an article in *Politico Magazine* points to Donald Trump's attachment anxiety as one potential explanation for his desire to live in the spotlight (Lovenheim, 2018). In the current research, we address this anecdote by examining whether attachment styles are related to the propensity to purchase status-signaling goods.

Consistent with attachment theory (Bowlby, 1969/1982), people learn to navigate social relationships in infancy, when they are entirely dependent on their attachment figures represented by primary caregivers. Notably, their early experiences with caregivers shape how they approach intimate relationships as adults (Ainsworth, 1989; Bowlby, 1969; Mikulincer & Shaver, 2007). Insecurities about caregivers' availability and affection manifest as two relatively stable separate dimensions of adult attachment: attachment anxiety (referred to in the

earlier literature as “attachment ambivalence”) and attachment avoidance (Ainsworth et al., 2014; Fraley, 2019; Fraley et al., 2000; Hazan & Shaver, 1994).

The anxious attachment style is based on hypervigilance and preoccupation with relationships, with anxiously attached individuals having a strong need for emotional closeness, reassurance, and comfort (Mikulincer & Shaver, 2003). Their hyperactivation of the attachment system is an attempt to get reliable attention and protection from others to provide at least a temporary sense of relief and security (Mikulincer & Shaver, 2016). Such people often worry over their relationships and tend to intensify support seeking, which, ironically, may push partners away (Vicary & Fraley, 2007). Unlike the anxiously attached individuals, those with an avoidant attachment style can be described as suppressing and avoiding relational content and needs. People high in attachment avoidance engage in various defensive strategies that deny the need for intimacy and emphasize self-reliance, self-efficacy, and personal strength (Mikulincer & Shaver, 2016). They expect relationship failure and have an aversion toward commitment, and hence offer less emotional support, experience less intimacy, and have brief, unsatisfying relationships (Vicary & Fraley, 2007). Finally, the secure attachment style is characterized by feeling safe and confident in relationships filled with trust (Ainsworth, 1989).

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Attachment theory has recently been recognized as an important framework for understanding consumption responses (David et al., 2020; David & Bearden, 2017; Folwarczny & Otterbring, 2021). For instance, consumers appear to form different relationships with companies, employees, and brands depending on their attachment patterns, which may be reflected in their purchase decisions (Thomson & Johnson, 2006). Indeed, securely attached consumers rate companies and their employees more positively than their insecurely attached peers in terms of trust, affective commitment, and brand satisfaction (e.g., Bidmon, 2017). Furthermore, compared to individuals with anxious or avoidant attachment styles, consumers who develop a secure attachment style also make healthier food choices (Ein-Dor et al., 2015) and show a stronger propensity to consume goods and services in environmentally friendly ways (Folwarczny & Otterbring, 2021). On the other hand, a lack of attachment security is related to social media addiction (Blackwell et al., 2017), including problematic smartphone use (Balta et al., 2019), as well as aversive aspects linked to alcohol consumption (Chakroun-Baggioni et al., 2021), drug use (Kassel et al., 2007), and unhealthy food consumption (Pepping et al., 2015). Attachment style is also related to how consumers react to relational advertisements (David & Bearden, 2017) and consensus claims depicted in ads (David, 2016).

## 2. Attachment style and status striving

Several studies demonstrate that adult attachment styles in close relationships are related to the way people become attached to their possessions. For example, in two correlational studies, Norris et al. (2012) demonstrated that anxious attachment—but not avoidant attachment—was related to a higher level of materialism. Further, Kogut and Kogut (2011) found that attachment anxiety—both measured and manipulated—was related to a stronger endowment effect, that is, putting a higher value on one's possessions. Again, this effect was absent for attachment avoidance. Kogut and Kogut (2011) postulated that for anxiously attached individuals, the fear of losing the love of significant others might extend to the anxiety people feel over the loss of, or separation from, their possessions. To the extent that anxiously attached people fail to establish stable and satisfying relationships with others, they may develop alternative strategies that promote substitutes for attachment, such as accumulating material possessions (Belk, 1988; Norris et al., 2012). In other words, when anxiously attached individuals find that their relationships with their attachment figures are not stable and reliable, they may place more value on possessions and behaviors that they believe will earn them love and respect from others. Status-signaling consumption seems to be an ideal candidate for such behavior.

Consuming status goods is a strategy based on striving for high social standing and surrounding oneself with people who occupy upper positions on a social ladder (Han et al., 2010), especially to compensate for low power or being low in the societal hierarchy (Rucker & Galinsky, 2009). This strategy is inevitably related to consumer materialism (Wang & Wallendorf, 2006). Indeed, materialistic people typically try to demonstrate their status and success to the outside world by buying socially visible products with a considerably higher-than-average price within a particular product category (Richins & Dawson, 1992).

Products such as paper clips and toilet paper are considered commodities by consumers; hence, such goods have meager potential to signal status. On the other hand, products visible to the public, such as exclusive watches, brand-new smartphones, or conspicuous cars, have a much higher potential to signal status. Notably, the price paid for a product within a category with a high potential to signal status indicates the degree of status communicated. Thus, the more expensive and ostentatious the product, the more likely it is to signal status, and materialistic consumers often view the monetary value of a product as a critical evaluation criterion when deciding what to purchase (Richins & Dawson, 1992).

The anxious attachment style is characterized by an intense desire for contact with others, coupled with simultaneous displays of

independence due to fear of rejection (Ainsworth et al., 2014) and compensatory behaviors that would soothe the feeling of loneliness and uncertainty (Mikulincer & Shaver, 2013). Given that this attachment style has been discussed as predictive of both materialism and attachment to possessions (Kogut & Kogut, 2011; Norris et al., 2012) as well as actions that attract the attention of others (Cassidy & Berlin, 1994), we hypothesize that consumers with an anxious attachment style—when compared to their counterparts with either secure or avoidant attachment patterns—should be particularly prone to signal status via consumption, as manifested through an increased tendency to purchase status-signaling goods, with this effect being partially explained by their heightened levels of materialism. However, we also predict that this effect would not be present for attachment avoidance, as highly avoidant people do not have the motivation to seek proximity to an attachment figure or to gain love and respect from others. Instead, such individuals are characterized by an almost compulsive type of self-reliance (Mikulincer & Shaver, 2016) and do not tend to develop an emotional relationship with possessions to respond to attachment insecurities (Kogut & Kogut, 2011; Sun et al., 2020).

## 3. Study 1

We conducted a high-powered study as a first test of the relationship between attachment styles and status-signaling consumption. Attachment styles were captured through a single-item measure from Hazan and Shaver (1987) due to its straightforward and concrete nature. Such single-item measures are valid if they represent clear and unambiguous constructs, as in the current case (Bergkvist & Rossiter, 2007; Robins et al., 2001). Using path analysis, we tested whether having an anxious or avoidant attachment style—when compared to secure attachment patterns—would be associated with an increased tendency to purchase status-signaling goods (dependent variable), and whether materialistic values would mediate this relationship, which was assumed to be the case for participants with an anxious but not avoidant attachment style.

### 3.1. Method

#### 3.1.1. Participants

A total of 1400 participants from Prolific Academic were initially recruited to participate in an online study. Three cases were excluded due to missing data on the attachment measure, leaving a final sample of 1397 participants (59.80% women, 40.06% men, 0.14% missing info about gender; age median = 39 years, mean = 40.64,  $SD = 12.55$ ). This sample size has a power greater than 0.95 to detect small effect sizes equivalent to  $R^2 = 0.01$  or Cohen's  $d = 0.20$ , assuming a conventional alpha level of 0.05 (Cohen, 2013).

#### 3.1.2. Procedure

The data were collected via a cross-sectional survey as part of a larger project, which examined individuals' pro-environmental consumption responses as a function of birth order (Otterbring & Folwarczny, 2022; Folwarczny & Otterbring, 2021) and attachment style [masked for review]. All study materials were in English. Participants first reported their biological sex and completed several scales in a randomized order (see below for details), after which they indicated their attachment style and provided demographic information.

#### 3.1.3. Attachment style

Participants read a brief description of some key characteristics linked to each attachment style, and subsequently selected the one that best described who they are as individuals. Their chosen attachment style served as our independent variable ( $n_{\text{anxious}} = 108$ ;  $n_{\text{secure}} = 564$ ;  $n_{\text{avoidant}} = 725$ ). Consistent with previous studies on the distribution of attachment styles (e.g., Cassidy & Berlin, 1994; Mickelson et al., 1997), our sample consisted of fewer participants with an anxious attachment style (7.73%) than those with a secure (40.37%) or an avoidant

(51.90%) attachment style. However, despite these discrepancies, it should be noted that comparisons involving other predictors often yield similar or even larger cell size differences (e.g., Jonason & Luoto, 2021; Otterbring et al., 2021).

### 3.1.4. Materialism and status consumption

Participants filled out the short, six-item form of the Material Values Scale (Richins, 2004), which measures individuals' materialistic values, with items such as "I like a lot of luxury in my life" and "The things I own say a lot about how well I'm doing in life." Responses were given on a five-point Likert scale (1 = *disagree strongly*; 5 = *agree strongly*) and were averaged to form a composite materialism index ( $\alpha = 0.83$ ,  $M = 3.02$ ,  $SD = 0.88$ ). Participants also completed the five-item Status Consumption Scale (Eastman et al., 1999), which includes statements of the type "I would buy a product just because it has status" and "I would pay more for a product if it had status." To mitigate common method bias (Podsakoff et al., 2003), we randomized the item presentation order and used a seven-point Likert format for this latter scale (1 = *disagree strongly*; 7 = *agree strongly*), with the items combined to create an index of status consumption ( $\alpha = 0.88$ ,  $M = 2.20$ ,  $SD = 1.21$ ). We found only a small number of missing values for 59 participants, with these values replaced by the mean values for the respective scales.

## 3.2. Results and discussion

Fig. 1 presents distributions for status consumption scores and materialism scores for people with secure, anxious, and avoidant attachment styles. We observe a small floor effect for the status consumption variable, such that most participants scored low-to-medium, but the distribution for materialism was close to the normal distribution. The visual inspection revealed a slightly skewed distribution of residuals on one scale (see Fig. 1, left panel). Moreover, Levene's test based on medians revealed marginally significant differences between attachment groups in the variances on materialistic value orientation,  $F(2, 1394) = 2.78$ ,  $p = .063$ , and significant differences between the groups in the variances on the status consumption scale,  $F(2, 1394) = 3.23$ ,  $p = .036$ . Therefore, we compared the ratios of the largest and smallest average variances across attachment styles for these measures. The variance ratios were less than 1.5 in both cases, thus meeting the robustness criteria of the  $F$ -test despite unequal group sizes and variance heterogeneity (Blanca et al., 2018). However, we decided to use the more conservative Games-Howell post-hoc test that does not assume equality of variances.

A one-way ANOVA with attachment style (secure, avoidant, and anxious) as the independent variable revealed a significant omnibus effect on participants' materialistic value orientation,  $F(2, 1392) =$

18.00,  $p < .001$ ,  $\eta^2 = 0.025$ . Follow-up post-hoc tests (Games-Howell) showed that participants with an anxious attachment style ( $M = 3.41$ ,  $SD = 0.80$ ) reported significantly higher materialistic value orientation scores than their counterparts with avoidant ( $M = 3.06$ ,  $SD = 0.85$ ;  $p < .001$ ) and secure attachment styles ( $M = 2.89$ ,  $SD = 0.90$ ;  $p < .001$ ), with the two latter groups also differing significantly ( $p = .002$ ); see Fig. 1, right panel.

A similar analysis of the status consumption scale also found a significant omnibus effect of attachment style,  $F(2, 1392) = 4.77$ ,  $p = .009$ ,  $\eta^2 = 0.010$ . Follow-up post-hoc tests (Games-Howell) demonstrated that anxious participants ( $M = 2.54$ ,  $SD = 1.42$ ) scored significantly higher than both avoidant ( $M = 2.18$ ,  $SD = 1.18$ ;  $p = .035$ ) and securely attached participants ( $M = 2.16$ ,  $SD = 1.20$ ;  $p = .025$ ), whereas these latter groups did not differ significantly from one another ( $p = .934$ ); see Fig. 1, left panel.

To test our hypothesis that the anxious attachment style promotes status consumption because it is also related to a higher level of materialism, with this effect not emerging for participants with an avoidant attachment style, we conducted a mediation analysis using MPlus with the maximum likelihood estimation method and robust estimation of standard errors. This procedure takes the non-normality of outcomes into account. We used indicator coding with the secure attachment style as a reference category. One dummy variable represents the anxious (vs. secure) attachment comparison, and a second dummy variable represents the avoidant (vs. secure) attachment comparison. The indicator-coded attachment style served as an independent variable, status consumption as a dependent variable, and materialism as a mediator. We estimated total, direct, and indirect effects with their 95% bias-corrected confidence intervals using bootstrapping with 10,000 samples. These intervals take the non-normality of the parameter estimate distribution into account, and, as a result, are not necessarily symmetric around the parameter estimate (Kelloway, 2015). The continuous variables were z-scored before analysis to allow for standardized coefficients.

As the model presented in Fig. 2 was saturated, it was perfectly fitted to the data (RMSEA = 0, CFI = 1, TLI = 1, SRMR = 0). The total effect of the anxious (vs. secure) attachment style on status consumption was significant and positive (path  $c_1$ :  $\beta = 0.32$ ,  $SE = 0.12$ ,  $Z = 2.63$ ,  $p = .009$ , 95% boot CI [0.08, 0.56]), while the total effect of the avoidant (vs. secure) attachment style was not (path  $c_2$ :  $\beta = 0.02$ ,  $SE = 0.06$ ,  $Z = 0.35$ ,  $p = .726$ , 95% boot CI [-0.09, 0.13]). As depicted on the left-hand side of Fig. 1, anxiously attached participants were more prone to declare that they would buy status-signaling products than securely attached participants and those with an avoidant attachment style.

The anxious (vs. secure) attachment style had a significant and positive effect on materialism (path  $a_1$ :  $\beta = 0.59$ ,  $SE = 0.10$ ,  $Z = 6.11$ ,  $p < .001$ , 95% boot CI [0.40, 0.78]), whereas the effect of the avoidant (vs.

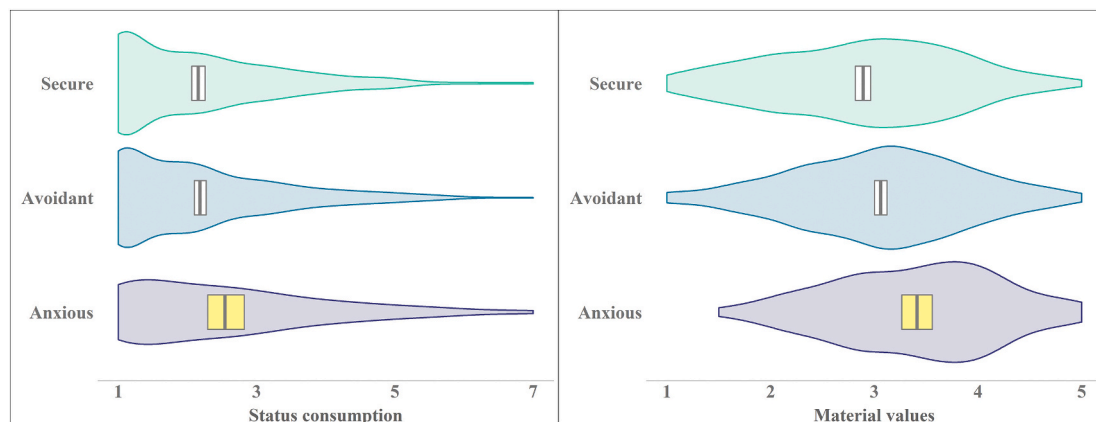
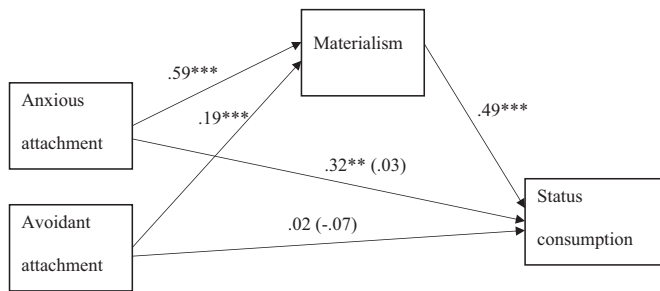


Fig. 1. Status consumption and material values for each attachment style

Note: Vertical lines in the centers of the boxplots indicate means. Areas within boxplots show 95% confidence intervals (CIs) around the means obtained by nonparametric bootstrapping. The shaded areas in the violin plots depict the response densities.



**Fig. 2.** Mediation effect of anxious and avoidant attachment through materialism on status consumption (Study 1).

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Standardized regression coefficients.

Values in parentheses represent regression coefficients while controlling for the mediator.

secure) attachment style, although significant and positive, was much weaker than the effect of the anxious attachment style (path  $a_2$ :  $\beta = 0.19$ ,  $SE = 0.06$ ,  $Z = 3.42$ ,  $p = .001$ , 95% boot CI [0.08, 0.30]). Altogether, attachment styles accounted for approximately 2.5% of the variance in materialism ( $R^2 = 0.025$ ),  $SE = 0.01$ ,  $Z = 3.12$ ,  $p = .002$ . As illustrated on the right-hand side of Fig. 1, anxiously attached participants declared a higher level of materialism than securely attached participants and those with the avoidant style.

Materialism levels were positively related to the motivation to consume status-signaling goods (path b:  $\beta = 0.49$ ,  $SE = 0.03$ ,  $Z = 18.48$ ,  $p < .001$ , 95% boot CI [0.44, 0.54]). While controlling for the mediator, the direct effect of the anxious (vs. secure) attachment style on status consumption was not significant ( $c_1$ :  $\beta = 0.03$ ,  $SE = 0.10$ ,  $Z = 0.26$ ,  $p = .798$ , 95% boot CI [-0.17, 0.24]), with comparable results emerging for the avoidant (vs. secure) attachment style ( $c_2$ :  $\beta = -0.07$ ,  $SE = 0.05$ ,  $t = -1.55$ ,  $p = .121$ , 95% boot CI [-0.17, 0.020]). Altogether, attachment styles together with materialism accounted for roughly 24% of the variance in status consumption ( $R^2 = 0.243$ ),  $SE = 0.02$ ,  $Z = 11.50$ ,  $p < .001$ .

The 95% bootstrapped CI for the relative indirect effect from the anxious (vs. secure) attachment style did not overlap 0, 95% boot CI [0.20, 0.39]. This pattern also applied to the 95% bootstrapped CI for the relative indirect effect from the avoidant (vs. secure) attachment style, 95% boot CI [0.04, 0.15], with the former relative indirect effect being stronger ( $\beta = 0.29$ ,  $bootSE = 0.05$ ) than the latter ( $\beta = 0.09$ ,  $bootSE = 0.03$ ), 95% boot CI [0.11, 0.29] for the indirect effects comparison.

In sum, consistent with our predictions, we found that people with an anxious attachment style reported a significantly higher propensity to purchase status-signaling goods than people with a secure attachment style, while also placing a greater importance on materialistic values, with materialistic value orientation mediating the relationship between the anxious (vs. secure) attachment style and status consumption. Surprisingly, we found a similar, albeit much weaker, indirect effect among people with an avoidant attachment style.

## 4. Study 2

Whereas Study 1 provided initial support for our hypothesis, it was subject to several limitations. First, we used a single-item measure of attachment style (Hazan & Shaver, 1987). Given that only 8% of our sample reported an anxious attachment style, we cannot rule out the possibility that the results we obtained with this measure were biased due to demand characteristics (Orne, 1962). Specifically, the item indicative of an anxious attachment style could have been interpreted as casting participants in a negative light. Second, the small number of participants with an anxious attachment style raises questions about the robustness and replicability of our results, and conducting analyses with attachment groups differing substantially in cell sizes might be criticized

for the issue of unequal variances. Finally, many instruments measuring attachment style treat the attachment construct as continuous (for an overview, see Ravitz et al., 2010). Therefore, in Study 2, we sought to revisit our predicted relationships between attachment styles, materialistic values, and status consumption using a continuous, multi-item instrument in two-dimensional space: the level of attachment anxiety and avoidance, respectively (Fraley et al., 2000). Moreover, we sought to replicate the results of Study 1 after the COVID-19 restrictions had been relaxed because the data used in Study 1 were collected at the onset of the pandemic, and such major life events tend to influence attachment patterns (Fraley et al., 2021). To further prevent common method bias (Podsakoff et al., 2003) and allow for quasi-causal reasoning, we collected the data in two waves, with attachment style collected in wave 1 and materialism as well as status consumption collected in wave 2, ten weeks later. We preregistered the study hypotheses, sample size, data collection, and analysis at [https://aspredicted.org/8HM\\_6SX](https://aspredicted.org/8HM_6SX). Similar to Study 1, we conducted path analysis, this time by testing relationships emerging across both dimensions of attachment style (i.e., anxious and avoidant) on status consumption, accounting for the mediating role of materialistic values. In our preregistered hypotheses, we predicted that participants who scored high on attachment anxiety should be more inclined to purchase status-signaling goods and that their higher levels of materialism should mediate this effect. Mirroring findings from Study 1, we also predicted that this pattern would be weaker or even absent for participants who scored high (vs. low) on attachment avoidance.

### 4.1. Method

#### 4.1.1. Participants

We calculated our desired sample size using the size of the weaker relative indirect effect that we found in Study 1 (i.e., the effect of an avoidant relative to secure attachment style through materialism on status consumption),  $\beta = 0.09$ , using the Monte Carlo Power Analysis for Indirect Effects app (Schoemann et al., 2017), and found that a sample size of  $N = 335$  participants would be enough to detect such an indirect effect at a 95% confidence level with a statistical power of 0.90. To account for non-optimal group sizes in Study 1, we took a conservative approach and aimed to double the sample size and thus recruit 670 participants. However, given that Study 2 was designed as a two-step study, in which participants were contacted twice with several weeks in between, attrition considerations (i.e., 50% dropout rate) from the first to the second part of the study made us recruit 1273 participants in the first step, in which we measured attachment style. These participants constituted a representative sample of U.S. citizens concerning age, gender, and ethnicity, and were recruited from Prolific Academic. Eighty-seven participants who failed one or two attention checks were removed from the sample. Ten weeks later, the remaining 1186 participants were invited to participate in an ostensibly unrelated study. Of these, 657 completed the survey within two consecutive working days (54.79% women, 44.44% men, 0.76% other; age median = 41 years, mean = 42.92,  $SD = 16.94$ ). No data were excluded at this stage, and data collection was not continued after data analysis.

#### 4.1.2. Procedure

In the first part of the study, participants filled out the Experiences in Close Relationships-Revised Questionnaire (ECR-R), capturing people's attachment style in terms of two dimensions: anxious attachment and avoidant attachment (Fraley et al., 2000). Following Gollwitzer and Clark (2019), we used a modified version of the questionnaire with the items referring to close others in general rather than referring specifically to one's romantic partner (e.g., avoidant attachment: "I get uncomfortable when others want to be very close;" anxious attachment: "I'm afraid that I will lose others' love"). Participants first read the following prompt taken from Gollwitzer and Clark (2019, p. 1209): "The following statements concern how you feel in emotionally intimate relationships (e.g., close friends, family, romantic partners). We are

interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement to indicate how much you agree or disagree with the statement. Again, the following items refer to close others in general.” Then, they provided answers to 36 items presented in a randomized order using a seven-point Likert scale, from 1 = *strongly disagree* to 7 = *strongly agree*. These items assessed participants' adult attachment style and were averaged to form indicators of two dimensions, respectively (attachment anxiety:  $\alpha = 0.93$ ,  $M = 3.26$ ,  $SD = 1.29$ ; attachment avoidance:  $\alpha = 0.93$ ,  $M = 3.54$ ,  $SD = 1.14$ ).

The second part of the study took place ten weeks after the first part. After providing informed consent and answering demographic questions about gender and age, participants were asked to fill out several psychological questionnaires presented in a randomized order, including the six-item Material Values Scale (Richins, 2004) and the five-item Status Consumption Scale (Eastman et al., 1999), identical to Study 1. The scores were averaged to form indicators of materialistic values ( $\alpha = 0.93$ ,  $M = 2.89$ ,  $SD = 0.84$ ) and status consumption ( $\alpha = 0.93$ ,  $M = 2.54$ ,  $SD = 1.30$ ).

#### 4.2. Results and discussion

To test our focal hypothesis that attachment anxiety more than attachment avoidance stimulates status consumption because attachment anxiety is more strongly associated with high levels of materialism (with materialism acting as a mediator for the link between attachment anxiety and status consumption), we again conducted a mediation analysis using MPlus with the maximum likelihood estimation method and robust estimation of standard errors. The two dimensions of attachment style served as independent variables (correlated), materialism was the mediator, and status consumption acted as the dependent variable. We estimated total, direct, and indirect effects and their 95% bias-corrected confidence intervals using bootstrapping with 10,000 samples. The variables were z-scored before analysis to allow for standardized coefficients.

As the model presented in Fig. 3 was saturated, it was perfectly fitted to the data (RMSEA = 0, CFI = 1, TLI = 1, SRMR = 0). Altogether, the two dimensions of attachment styles accounted for 12.6% of the variance in materialism ( $R^2 = 0.126$ ),  $SE = 0.02$ ,  $Z = 5.12$ ,  $p < .001$ . The total effect of attachment anxiety on status consumption was significant and positive (path  $c_1$ :  $\beta = 0.30$ ,  $SE = 0.14$ ,  $Z = 6.69$ ,  $p < .001$ , 95% boot CI [0.21, 0.38]), whereas the total effect of attachment avoidance was significant and negative (path  $c_2$ :  $\beta = -0.09$ ,  $SE = 0.04$ ,  $Z = -2.12$ ,  $p = .034$ , 95% boot CI [-0.17, -0.01]). Moreover, attachment anxiety had a significant and positive effect on materialism (path  $a_1$ :  $\beta = 0.38$ ,  $SE = 0.04$ ,  $Z = 9.52$ ,  $p < .001$ , 95% boot CI [0.30, 0.45]), whereas the effect of the attachment avoidance was nonsignificant (path  $a_2$ :  $\beta = -0.06$ ,  $SE = 0.04$ ,  $Z = -1.60$ ,  $p = .110$ , 95% boot CI [-0.15, 0.02]). Materialistic values were positively linked to status consumption (path  $b$ :  $\beta = 0.46$ ,  $SE = 0.04$ ,  $Z = 12.54$ ,  $p < .001$ , 95% boot CI [0.39, 0.54]). Controlling

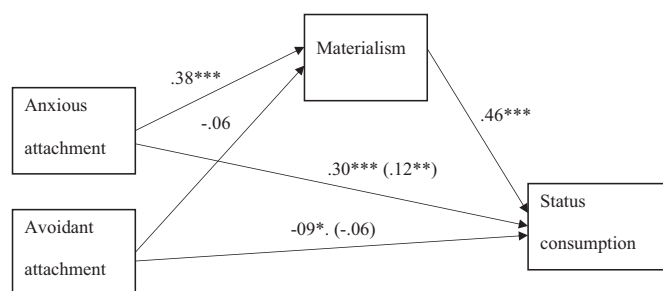


Fig. 3. Mediation effect of anxious and avoidant attachment through materialism on status-signaling consumption (Study 2).

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Standardized regression coefficients.

for the mediator revealed that the direct effect of attachment anxiety on status consumption was significant but weaker ( $c_1$ :  $\beta = 0.12$ ,  $SE = 0.04$ ,  $Z = 2.83$ ,  $p = .005$ , 95% boot CI [0.04, 0.20]), while the effect of attachment avoidance was nonsignificant ( $c_2$ :  $\beta = -0.06$ ,  $SE = 0.04$ ,  $Z = -1.47$ ,  $p = .140$ , 95% boot CI [-0.13, 0.02]). Altogether, attachment styles with materialism accounted for 26.3% of the variance in status consumption ( $R^2 = 0.263$ ),  $SE = 0.03$ ,  $Z = 8.32$ ,  $p < .001$ .

Consistent with the findings from Study 1, the relative indirect effect of attachment anxiety on status consumption through materialism was significant and positive,  $\beta = 0.17$ ,  $bootSE = 0.02$ , 95% boot CI [0.13, 0.22]. However, unlike Study 1, the indirect effect of attachment avoidance was nonsignificant,  $\beta = -0.03$ ,  $bootSE = 0.02$ , 95% boot CI [-0.07, 0.02]. Values in parentheses represent regression coefficients while controlling for the mediator.

In support of our preregistered hypotheses and results from Study 1, Study 2 found that attachment anxiety was related to a higher propensity to purchase status-signaling goods and to more materialistic values, with materialistic value orientation mediating the relationship between attachment anxiety and status consumption. This pattern did not consistently emerge for attachment avoidance. In fact, participants who scored high on attachment avoidance reported a lower (rather than higher) propensity to purchase status-signaling goods. Together with the results from Study 1, these findings indicate that attachment anxiety has a unique impact on people's striving for consuming goods that signal status.

#### 5. General discussion

Compared to the other two attachment patterns, the anxious attachment style is characterized by a greater desire for contact with others, coupled with compensatory behaviors aimed at alleviating their greater fear of rejection (Ainsworth et al., 2014; Mikulincer & Shaver, 2013). In addition, anxiously attached individuals place a greater value on materialism (Kogut & Kogut, 2011; Norris et al., 2012), and they seek more attention than those with secure and avoidant attachment patterns (Cassidy & Berlin, 1994). Therefore, the current research aimed to examine whether individuals with high (vs. low) attachment anxiety show a stronger tendency to purchase status-signaling goods than individuals with low attachment anxiety, which is a shared feature of the other two attachment styles. To this end, we conducted two high-powered studies including more than 2000 participants, preregistered hypotheses, and different operationalizations of attachment styles. Consistent with our theorizing, we found that people with an anxious attachment style reported a significantly higher propensity to purchase status-signaling goods than people with a secure attachment style, while also placing the greatest importance on materialistic values, with materialistic value orientation mediating the relationship between attachment anxiety and consumption of status-signaling goods. Surprisingly, in Study 1, we found a similar, albeit much weaker effect among people with an avoidant attachment style. However, we did not replicate this latter result in Study 2, where the relationship between attachment avoidance and status consumption was negative, with the indirect effect through materialistic values being nonsignificant. As such, attachment anxiety appears to have a distinct effect on individuals' status-seeking tendencies, with more materialistic values and increased status consumption linked to this specific attachment style.

Our findings contribute to the attachment literature in the consumption domain by demonstrating that attachment patterns developed early in life (Ainsworth et al., 2014; Bowlby, 1969/1982) are related to consumer preferences in adulthood (e.g., David et al., 2020; David & Bearden, 2017; Folwarczny & Otterbring, 2021). More precisely, we show that individuals with an anxious attachment style differ from those with secure and avoidant attachment styles in the propensity to consume status-signaling goods, with their materialistic values constituting a plausible explanation for this difference. Because avoidant participants eschew intrinsic goals associated with building and maintaining close

social ties, they may see a commitment to consumption and possessions as a way to gain achievement and self-reliance rather than as a substitute for attachment in itself. Recently, Gasiorowska and Zaleskiewicz (2021) suggested that market-related behaviors may be an important alternative to seeking help from close others, especially those who focus on their agency, self-efficacy, and sense of control. Hence, it is possible that avoidant individuals turn to the market exchange to achieve their goals and thus experience even greater agency, not because they are particularly interested in the symbolic meaning of their consumption. Compared to secure and avoidant attachment styles, individuals with an anxious attachment style tend to have a strong desire for social bonding with important attachment figures, and they tend to use hyperactivating strategies to maintain relationships. They pay close attention to their attachment figures and strive to receive their love, attention, and respect. Because their behavior repels rather than attracts others, they may not be able to form stable and satisfying relationships with others. Therefore, they may develop alternative strategies that foster substitute attachments, such as those involving material possessions (Norris et al., 2012). Our results suggest that interest in status-signaling goods may be an offshoot of a broader category of such strategies. Indeed, Han et al. (2010) found that consumers sometimes purchase loud and luxurious goods to distinguish themselves from consumers with whom they do not wish to be associated, while at the same time attempting to “buy into” groups with which they wish to be identified. Such status-signaling consumption, driven by superficially incoherent motives to seek closeness with and distance from others, is enhanced when consumers are deprived of attention (Lee & Shrum, 2012)—a characteristic of people with anxious attachment patterns (Cassidy & Berlin, 1994).

In contrast to attachment anxiety, our evidence for the relationship between attachment avoidance, materialism, and status consumption was mixed. In Study 1, we found that participants with an avoidant attachment style were more materialistic than securely attached individuals, with an indirect effect also emerging for the avoidant (vs. secure) attachment style through materialism on status consumption. Such findings run contrary to previous related research (Kogut & Kogut, 2011; Norris et al., 2012; Sun et al., 2020). However, it is possible that the results from Study 1 were just an artifact of our attachment measure, considering that these findings did not replicate in Study 2, in which we captured attachment style in a more nuanced way. Some anxiously attached participants in Study 1 may have selected the avoidant attachment style due to social desirability issues associated with the “anxious” description (which may have been perceived as the least desirable option to choose),<sup>1</sup> potentially explaining our weak indirect effect from the avoidant attachment style to status consumption via materialistic values. Hence, the results from Study 1 regarding the avoidant attachment style should be treated with caution, especially given attachment avoidance was associated with a lower rather than higher motivation to signal status via consumption in Study 2 and that materialism did not mediate the link between attachment avoidance and status consumption in this latter study.

### 5.1. Limitations and future research directions

The current results have several possible limitations that point to future research directions. First, the anxious attachment style is over-represented in families of low socioeconomic status (Van IJzendoorn & Bakermans-Kranenburg, 2010). People belonging to low socioeconomic status groups tend to spend proportionally more of their disposable income on status-signaling goods than those occupying higher positions in the social hierarchy (Charles et al., 2009). Because we did not collect

<sup>1</sup> More precisely, it might be easier for participants to admit that the lack of intimacy they experience is due to their own decisions (description of an avoidant attachment style) rather than the reluctance of others (description of an anxious attachment style).

data indicative of participants' socioeconomic status in Study 1, we cannot rule out the possibility that our results, at least in part, are driven by such demographic differences rather than attachment style alone. Consequently, future research should collect data on participants' socioeconomic backgrounds to circumvent this potential confound.

Second, our measure of status consumption only captures the general propensity to purchase status-signaling goods without referring to specific product categories (Eastman et al., 1999). Although status-signaling goods have traditionally been associated with products such as jewelry, clothing, and automobiles, Dubois et al. (2012) found that consumers who have a high need for displaying status prefer larger food options (e.g., smoothies or bagels) than those who are less motivated to demonstrate their superior position in the social hierarchy (see also Dubois et al., 2010). Similarly, Otterbring et al. (2018) found that men whose status was threatened by an imposing same-sex rival preferred and drew larger brand logos, thereby demonstrating that status can be signaled through size rather than price. Thus, further research could explore whether attachment style is related to preferences for specific goods, including categories not traditionally associated with status, such as certain foods and beverages.

Finally, although attachment styles are relatively stable over the life course, recent longitudinal studies demonstrate that critical life events such as changing jobs can affect attachment patterns in enduring ways (Fraleigh et al., 2021). In addition, self-concepts associated with attachment patterns can be altered through experimental manipulations (Bartz & Lydon, 2004; Kogut & Kogut, 2011), potentially resulting in a shift in consumer preferences. For example, Swaminathan et al. (2009) manipulated levels of attachment security among participants and found that preferences for exciting brands increased when participants were asked to think of relationships with attachment insecurities. Thus, future research should investigate whether experimentally manipulated attachment patterns alter consumers' propensity to engage in status-signaling consumption to support causal claims.

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### CRediT authorship contribution statement

The order of authorship was decided by a roll of dice and should be considered equal. Agata Gasiorowska: funding acquisition, methodology, writing - review & editing; Michał Folwarczny: Conceptualization, funding acquisition, investigation, methodology, writing - original draft, review, & editing; Tobias Otterbring: conceptualization, funding acquisition, investigation, methodology, writing - original draft, review, & editing.

### Declaration of competing interest

None.

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