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Unraveling Perceived Ostracism: The Role of Antagonistic Traits and Attachment Orientation

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ABSTRACT

Perceived ostracism (e.g., feeling ignored and excluded) can lead to psychological distress. There has been little empirical research into the types (profiles) of people more likely to perceive ostracism. The present study ($N=604$) used latent class analysis (LCA) to (a) explore classes based on antagonistic traits (narcissism, machiavellianism, psychopathy, and sadism) while controlling for attachment orientation (attachment anxiety and attachment avoidance) and (b) examine whether such classes could reliably differentiate levels of self-reported perceived ostracism. We extracted five classes: (a) Average Low, (b) the Non-Antagonisers, (c) Average High, (d) Spiteful Manipulators, and (e) the High Antagonisers. Those in the High Antagonisers class reported significantly higher levels of perceived ostracism compared to all other classes. No other differences between classes were observed. There were also significant positive relationships for avoidant and anxious attachment on perceived ostracism, respectively. This study provides new insight into the profiles of individuals who may be more likely to perceive ostracism. However, further research is needed to explore the association between personality and perceived ostracism. Researchers may consider measuring the potential outcomes following perceived ostracism for such groups and/or design potential interventions for those at risk of such experiences.

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Introduction

Ostracism is a form of social exclusion whereby people are ignored and excluded by an individual or group (Williams, 2009). Within the empirical literature, there are related yet distinguishable concepts such as ostracism, social rejection, and social exclusion. Ostracism refers to being ignored or excluded without explicit acknowledgment, often resulting in an individual feeling invisible or unacknowledged within a social context. This form of exclusion can be subtle and indirect, manifesting through actions such as silent treatment, being left out of group activities, or being overlooked

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in conversations. In contrast, social rejection involves a more direct and explicit denial of social connection, where an individual is overtly told that they are not wanted or are being excluded. This can include being explicitly turned down for social events, being rejected in personal relationships, or being denied membership in a group. While both ostracism and social rejection fall under the broader umbrella of social exclusion, they represent different experiential dimensions: ostracism is marked by passive neglect, whereas social rejection is characterized by active refusal.

It should be noted that the present study is focused on the *perception* of ostracism. Once a person notices they have been ostracized, this can be explained as the “perception of being overlooked or excluded from social interactions or ...activities by others...when one should have been acknowledged, responded to, or included” (Sharma & Dhar, 2022, p. 2). Feeling ostracized can be a painful experience (Williams, 2009) that occurs in a myriad of different situations (e.g., ghosted on social media; being left out of conversations) and contexts (e.g., at work; receiving silent treatment by close others; Williams, 2009). Indeed, research has shown that feeling ostracized is associated with several adverse outcomes, such as increased levels of psychological distress (Ferris et al., 2008), physiological stress (Kothgassner et al., 2021), impaired sleep quality (Waldeck et al., 2020), and paranoia (Waldeck et al., 2022).

The Temporal Need Threat Model (TNTM; Williams, 2009) posits that to avoid the risks of starvation and death due to exclusion in the historical past, humans evolved to be able to detect signs of ostracism rapidly. As such, when ostracism is perceived, individuals experience an immediate depletion in their fundamental psychological needs (belonging, self-esteem, control, and meaningful existence). According to Williams (2009), after a short period (e.g., typically up to 45 min), ostracized individuals are usually able to restore such needs following reflection (e.g., appraising the event to be trivial). However, if ostracism continues in the long-term (e.g., weeks, months, years), which is also referred to as chronic ostracism, this can lead to prolonged suffering (e.g., feeling alienated and resigned; Williams, 2009). As ostracism can be a powerful stressor and negatively impact individuals, it is important to explore further *who* may be at risk of perceiving such events. In particular, the type of person one is (e.g., their personality traits) and their attachment orientation may sensitize people to perceive more ostracism than others (Riva et al., 2014).

Personality Traits and Ostracism

There is little extant research exploring the association between personality traits and perceived ostracism. Much of the limited literature to date has focused on potential moderating roles of personality traits in coping with the effects of ostracism in the *short-term*, although the findings are somewhat inconsistent (e.g., McDonald & Donnellan, 2012; Yaakobi, 2021). However, research exploring whether and how personality factors or traits are linked with perceived ostracism in the longer-term remains largely unexplored. This is surprising given that experiences of prolonged social exclusion can lead to adverse consequences such as an increase in psychological resignation (e.g., Aureli et al., 2020), suicidal thoughts (Chen et al., 2020), radicalism tendencies (Pfundmair et al., 2024), and may even act as a barrier to desistance from crime (Albertson et al., 2022). As such, the present study explores how personality is associated with the perception of ostracism.

Some researchers have suggested that people characterized by certain personality types may be at risk of *being* ostracized, such as those people who are disagreeable (Hales et al., 2016; Rudert et al., 2020). Indeed, Wesselmann et al. (2015) argued that perceiving others as burdensome (e.g., unlikeable) is usually enough justification to ostracize them. However, to the best of our knowledge, only one study to date has explored the association of personality and perceived ostracism (without being restricted to a particular context such as the workplace). Waldeck et al. (2023) employed latent class analysis methodology ($n = 395$) to identify distinct profile clusters of participants based on self-reported big five personality traits (Soto & John, 2017) in terms of levels of perceived ostracism. Waldeck and colleagues extracted three latent profile classes: (a) Moderate Traits (MT) class; (b) the Quiet Over-Reacting Procrastinators (QORP) class representing high scores in openness, conscientiousness, extraversion, and agreeableness, and low negative emotionality; and (c) the Active and Adaptable Thinkers (AAT) class having lower scores on Extraversion and Conscientiousness, with higher scores in Negative Emotionality. Put simply, Waldeck et al. (2023) found that the QORP class reported the highest levels of perceived ostracism, whereas those in the AAT class reported the lowest levels of perceived ostracism compared to the MT class. However, it is important to note that the three extracted latent classes accounted for just 8% of the variance explained in perceived ostracism. Waldeck et al. (2023) recommended that researchers explore other dimensions of personality when measuring ostracism, particularly the so-called *darker traits* (hereafter referred to as ‘antagonistic traits’). Indeed, antagonistic traits have been found to improve the prediction of perceived stress above and beyond the big-five personality traits (Papageorgiou et al., 2019).

Antagonistic Personality Traits

The antagonistic traits reflect the socially aversive side of personality (Jones & Figueredo, 2013). The dark triad model (Jones & Paulhus, 2014; Paulhus & Williams, 2002) has been widely adopted to study the social and emotional damage inflicted by those who score highly in three particular traits: Psychopathy, Machiavellianism, and Narcissism. All three dark triad traits considerably overlap and are highly inter-correlated with a core common component of callous exploitation of others (e.g., Heym et al., 2019; Paulhus et al., 2020). Indeed, Fino et al. (2023) noted that the research literature typically reports the sub-clinical and maladaptive traits of these callous exploiters as founded on a crux of antagonism (e.g., Vize et al., 2020) and substantive deficits in empathy (e.g., Heym et al., 2019). Despite being highly inter-correlated, there are some unique components to these antagonistic traits. Psychopathy represents an antagonistic disposition accompanied by disinhibition, often marked by impulsivity and offensive or illegal behavior as a result of deficits in emotional control and affect (Jones & Paulhus, 2014; Nickisch et al., 2020). Machiavellianism is characterized by a tendency to act antagonistically with misanthropic beliefs and interpersonal manipulation. In other words, Machiavellianism is defined by a propensity for strategic and calculating manipulation of others for own benefit alongside a utilitarian morality and callous affect (Nickisch et al., 2020). Narcissism refers to an antagonistic orientation exhibited by a sense of grandiosity, exhibitionism, and attention-seeking behavior (or high extraversion; Jones & Paulhus, 2014), often associated with problematic interpersonal relationships (e.g.,

Krizan & Herlache, 2018). The recent addition of Sadism, characterized by the pleasure derived from inflicting pain on others (e.g., Johnson et al., 2019), completes what is known as the Dark Tetrad Model (Paulhus et al., 2020; Paulhus & Dutton, 2016).

There has been some debate over whether Psychopathy and Sadism overlap to such a degree that they should, in fact, be reconsidered as a single trait defined by callousness (e.g., O'Connell & Marcus, 2019). However, Paulhus et al. (2020) provided theoretical and statistical support for inclusion of Sadism as an independent factor as it reflects the intrinsic pleasure derived viewing or consuming other-directed violence such as watching violent movies (Fino et al., 2023). Sadism has been linked to domestic or partner abuse (cf. Nickisch et al., 2020). In most instances, researchers have studied the antagonistic traits as a “dark core”, or examined the effects of individual dimensions, in relation to outcomes (e.g., Tokarev et al., 2017). However, Paulhus et al. (2020) advise assessing all four dimensions together given the overlap of callous exploitation.

When studied as the dark core, researchers have found individuals high in antagonistic traits tend to be unpopular, engage in bullying, and experience poor interpersonal relationships (e.g., Tokarev et al., 2017). When the traits are assessed separately, aversive relationship behaviors such as infidelity (Bilal et al., 2021), intimate partner cyberstalking (Pineda et al., 2022), and acts of image-based sexual abuse (e.g., Thomason-Darch, 2021) are noted. In the context of ostracism, a recent study has found that the antagonistic traits (excluding sadism) significantly predict workplace ostracism (Xu et al., 2024). There is also some limited research that has observed that narcissists are likely to react aggressively (Twenge & Campbell, 2003) or be more supportive of violence (Blinkhorn et al., 2021) in response to ostracism. However, it should be noted that narcissists may not always be susceptible to depletion of particular fundamental needs (e.g., self-esteem) when ostracized. For instance, Hughes et al. (2023) found narcissism to be negatively associated with a related concept, that of relatedness need frustration (e.g., feeling that others are dismissive of them). Moreover, Hughes et al. (2023) also observed the same effects when narcissism was included as part of the dark core (i.e., a combination of antagonistic personality traits). As such, the utility of the variable-level approach when studying ostracism from an antagonistic personality trait perspective may be somewhat limited.

It is also crucial to acknowledge that the association between personality and ostracism may be bidirectional. For example, some researchers have found that personality can change throughout one's lifetime (e.g., Roberts & Mroczek, 2008; Robins et al., 2001). Moreover, significant events of stress have been shown to relate to subsequent changes in personality (e.g., Riese et al., 2014). However, it should be noted that we are not focusing on the potential directional effect of perceived ostracism on possible personality change in the present study. Moreover, as Waldeck et al. (2023) argued that ostracism researchers should control for other key individual differences known to sensitize people to feelings of ostracism, we included attachment orientation in our study (discussed below).

Attachment Orientation and Ostracism

According to Attachment Theory (Bowlby, 1969; Bretherton & Munholland, 1999), children develop working models (i.e., templates) of attachment based on their critical

interactions with their primary caregiver. Eventually, these templates generalize into a filter to process social information (Dykas & Cassidy, 2011). Bowlby (1969) suggested that if an attachment figure is available and supportive in times of need, then this helps the child develop a sense of security and trust in others (i.e., secure attachment). By contrast, when attachment figures are unavailable or are unsupportive (e.g., ignoring the child), then this can lead to insecure attachment. Researchers typically examine attachment orientation in adults by measuring the two orthogonal dimensions of attachment anxiety and attachment avoidance (Bartholomew & Horowitz, 1991; Brennan et al., 1998; Liu et al., 2018). Attachment anxiety refers to the fear of abandonment and rejection, such that those high in this trait often feel unworthy of love. Attachment avoidance refers to the preference to avoid intimacy and closeness with others (Bartholomew & Horowitz, 1991; Bretherton & Munholland, 1999). Finally, if individuals are low in attachment anxiety and attachment avoidance, then they are securely attached and consider themselves worthy of love and are comfortable to be dependent and close with other people (Bowlby, 1969).

Riva et al. (2014) proposed that attachment orientation might serve as an antecedent to perceptions of ostracism events. Indeed, Riva et al. posited that a secure attachment orientation plays an important role in recovery from experiences of ostracism and would likely *reduce sensitivity* to social exclusion events. There is scant literature exploring the association between attachment orientation and ostracism, with related studies to date primarily testing for moderating effects in the short-term. The empirical studies conducted thus far indicate that being securely attached allows people to recover faster following perceived social exclusion (Hermann et al., 2014), and react with less aggression to such events (Liu et al., 2018). Indeed, Yaakobi and Williams (2016a) reported that merely asking participants to recall an attachment event helped moderate the distress caused by episodes of ostracism. However, by contrast, Yaakobi and Williams (2016b) found that people high in attachment avoidance were less distressed following ostracism than those who were securely attached. In a study that focused on ostracism attributions, those participants high in attachment avoidance were more affected by the attribution (Yaakobi, 2022). As such, in the short-term, attachment orientation appears important in recovery from ostracism. In contrast, when exploring perceived ostracism, to our knowledge, the only published study to date has reported a significant positive relationship between perceived ostracism and attachment anxiety (Hou et al., 2019). Therefore, for the present study, we focused on controlling for the influence of attachment orientation on perceived ostracism. It should be noted that while there are other known variables that could also be controlled in this study (e.g., paranoia [Waldeck et al., 2023], depression [Rudert et al., 2021]), for feasibility reasons we have focused exclusively on attachment orientation.

Aims and Hypotheses

The primary aim of the current exploratory study was to ascertain if different personality profiles could meaningfully discriminate levels of self-reported perceived ostracism. Given that antagonistic traits are related to low levels of agreeableness (i.e., being *disagreeable*; Stead & Fekken, 2014; Waller & Wagner, 2019), and past research has demonstrated that disagreeable people are likely to be ostracized by others (e.g., Hales et al., 2016), we expect people who are high in antagonistic traits to report an increased perception of ostracism.

Moreover, we also controlled for the potential influence of attachment orientation. Indeed, as insecure attachment has been shown to lead to rejection sensitivity (Erozkan, 2009), we therefore, expect attachment orientation as previously described to account for significant variance within the model. Thus, overall, we hypothesized that individuals with high levels of antagonistic traits would report higher perceived ostracism, even after controlling for attachment orientations.

Method

Participants and Procedures

Six hundred and four internet users (479 female) were recruited using an online survey distributed through emails to Universities within the UK, websites, social media platforms, and Internet data collection sites designed for academic researchers (e.g., <https://www.callforparticipants.com>; <https://www.socialpsychology.org/>). Socio-demographic information about the sample is reported in Table 1. Participants were required to read an information sheet and then consent to the study. They were then presented with the survey measures and read the debrief sheet. Before data collection began, the Institutional Research Ethics committee approved the study.

Materials

Predictor Variables

Antagonistic Personality Traits. We used the 28-item Short Dark Tetrad Scale (SD4; Paulhus et al., 2020) to measure the four antagonistic personality traits: Machiavellianism (“crafty”: e.g., “Manipulating the situation takes planning”; $\alpha = .61$), narcissism (“special”: e.g., “I have some exceptional qualities”; $\alpha = .76$), psychopathy (“wild”; e.g., “People often say I’m out of control”; $\alpha = .77$) and sadism (“mean”; e.g., “Some people deserve to suffer”; $\alpha = .78$). Participants responded using a 5-point Likert scale from 1 = “strongly disagree” to 5 = “strongly agree”. Previous research has shown the SD-4 to be a reliable and valid measure, and sufficiently distinguishes between Machiavellianism and psychopathy in contrast to previous measures (Paulhus et al., 2020). Higher scores represent greater levels of antagonistic traits on the respective dimensions.

Attachment Orientation. We used the 9-item Experiences in Close Relationships-Relationships Structures Questionnaire (Fraley et al., 2011) to measure global (i.e., not specific to a particular relationship) attachment avoidance and attachment anxiety. Participants responded using a 7-point Likert scale from 1 = “strongly disagree” to 7 = “strongly agree”. Sample items include “I don’t feel comfortable opening up to others” (avoidance; $\alpha = .76$) and “I’m afraid other people may abandon me” (anxiety; $\alpha = .89$). Higher scores represent a greater level of insecure attachment on the respective measures.

Outcome Variable

Perceived Ostracism. We used a modified version of the 10-item Workplace Ostracism Scale (WOS; Ferris et al., 2008; see Waldeck et al., 2017) to measure general perceived

Table 1. Descriptive Statistics About Participants' Socio-Demographic Characteristics.

	N (%)
Age	<i>M</i> = 26.35 (<i>SD</i> = 10.60)
<i>Gender</i>	
Female	<i>N</i> = 479 (79.3%)
Male	<i>N</i> = 105 (17.4%)
Other	<i>N</i> = 20 (3.3%)
<i>Nationality</i>	
British	<i>N</i> = 375 (62.1%)
American	<i>N</i> = 98 (16.2%)
Canadian	<i>N</i> = 4 (.7%)
Chinese	<i>N</i> = 5 (.8%)
Irish	<i>N</i> = 7 (1.2%)
Other	<i>N</i> = 111 (18.4%)
<i>Country of residence</i>	
UK	<i>N</i> = 463 (76.7%)
USA	<i>N</i> = 112 (18.5%)
Canada	<i>N</i> = 4 (.7%)
Australia	<i>N</i> = 3 (.5%)
Ireland	<i>N</i> = 2 (.3%)
Other	<i>N</i> = 17 (2.8%)
Missing	<i>N</i> = 3 (.5%)
<i>Occupational status</i>	
Employed	<i>N</i> = 170 (28.1%)
Student	<i>N</i> = 405 (67.1%)
Unemployed	<i>N</i> = 22 (3.6%)
Not disclosed	<i>N</i> = 7 (1.2%)
<i>Ethnic Identity</i>	
White/Caucasian	<i>N</i> = 414 (68.5%)
White and Black African	<i>N</i> = 12 (2.0%)
White and Black Carriibbean	<i>N</i> = 4 (.7%)
Black African	<i>N</i> = 30 (5%)
Black Carriibbean	<i>N</i> = 6 (1%)
Asian	<i>N</i> = 65 (10.8%)
East Asian	<i>N</i> = 8 (1.3%)
Latin American	<i>N</i> = 32 (5.3%)
Other	<i>N</i> = 33 (5.5%)

ostracism over the last six months. Given we were interested in 'global' (i.e., any context) perceived ostracism, the items were adjusted to remove the work-related focus. For example, rather than "others ignored you *at work*", we used "others ignored you". Instead of "others avoided you *at work*", we used "others avoided you"¹. Previous research has shown that the WOS has good reliability and construct validity when assessing workplace ostracism (Ferris et al., 2008). The modified version of the WOS has also been used to capture general perceived ostracism in the recent empirical literature (e.g., Waldeck et al., 2017, 2020, 2023). Participants responded using a 7-point Likert scale from 1 = "never" to 7 = "always" ($\alpha = .94$). Higher scores indicate greater levels of perceived ostracism. An exploratory factor analysis revealed a unidimensional factor structure with the range of factor loadings (.66 to .86) similar in magnitude to the factor loadings reported by Ferris et al. (2008).

Analytic Strategy

Based on the demonstrated value of analyzing personality traits using latent class analysis (LCA) (see Waldeck et al., 2023) a similar approach was adopted in this analysis. LCA is considered advantageous compared to competing analytic methods

when examining multidimensional constructs like personality traits and observing their effects on an outcome variable such as perceived ostracism (see Lanza & Rhoades, 2013). This technique permits researchers to investigate different personality profiles holistically rather than individually. LCA techniques identify subpopulations in the data based on a set of indicators (for an overview see Hagenars & McCutcheon, 2002). In this case profiles were generated based on participant responses to the antagonistic traits (Paulhus & Dutton, 2016).

Using MPLUS techniques, increasingly complex models were extracted from the data sequentially by adding an extra class at each stage. The determination of the most appropriate class solution was done by balancing competing considerations of fit, parsimony, and interpretability. As no agreed consensus regarding a superior fit statistics exists, the data were subjected to a battery of fit statistics and the results were interpreted holistically. The battery of fit statistics consisted of the “Bayesian Information Criteria” (BIC) and “Akaike Information Criterion” (AIC) which is a method of comparing competing models with the value closest to zero representing the most appropriate solution. A sample-sized adjusted AIC is also given to account for the risk of sample size unduly affecting these results. Entropy was also calculated which measures class distinction, with “values approaching 1 indicating clear delineation of classes” (Celeux & Soromenho, 1996), and the Lo Mundel Ruben which directly compares class solutions with one class lower than the tested class. Once an appropriate class solution was identified, the profiles were interpreted and named to help facilitate interpretability. These latent classes were then treated as categorical variables and formed the IV of an ANCOVA where it was tested whether the means of the perceived ostracism differed statistically significantly when attachment orientation was controlled for. Bonferroni post-hoc tests were planned to investigate where and to what extent any significant differences emerged across classes. Bonferroni corrections were applied when interpreting alphas.

Results

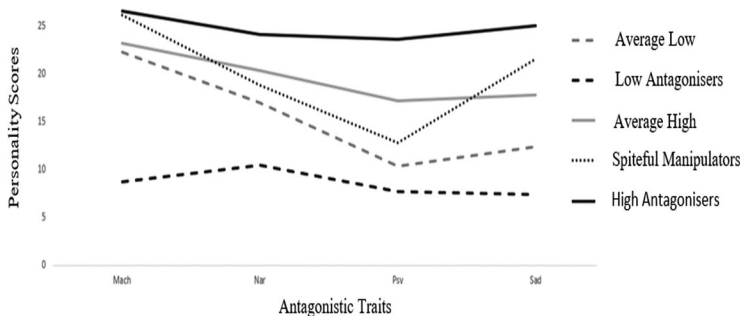
Identification of Appropriate Profiles

The identification of an appropriate class solution was calculated by weighing different considerations of parsimony, interpretability, and fit. Fit statistics and class proportions are displayed in Table 2.

While a three-class solution was shown to provide a non-meaningful addition to the model, the decision to continue to add classes was made due to the limited interpretability of a two-class solution. The addition of successive classes after a three-class solution improved fit statistics across all metrics. After careful consideration, a five-class solution was found to be the most appropriate (see Figure 1), all fit statistics suggested a fifth class would be a meaningful addition to the data. This solution gives sufficient scope for meaningful interpretation as to what the classes represent with two major classes representing small deviations from the average (labeled *average high* and *average low, respectively*), and two smaller classes representing abnormally high (labeled the *high antagonisers*) and low scores (labeled the *low antagonisers*) respectively. The final

Table 2. Fit Statistics for the Various Class Solutions Identified in the Sample.

Class	AIC	SSAIC	BIC	LMR p	BLRT p	Entropy	N (%)
C2	14063.470	14079.445	14120.717	<.001	<.001	.662	
C2K1							363 (60.009)
C2K2							241 (39.901)
C3	13996.792	14018.911	14076.057	.0753	.0801	.782	
C3K1							271 (44.868)
C3K2							27 (4.470)
C3K3							306 (50.662)
C4	13940.916	13969.179	14042.199	<.001	<.001	.831	
C4K1							6 (.993)
C4K2							27 (4.470)
C4K3							310 (51.325)
C4K4							261 (43.212)
C5	13908.419	13942.826	14031.719	.0027	.0022	.790	
C5K1							293 (48.510)
C5K2							6 (.993)
C5K3							219 (36.258)
C5K4							59 (9.768)
C5K5							27 (4.470)
C6	13899.910	13940.461	14045.228	.6364	.6272	.815	
C6K1							288 (47.682)
C6K2							44 (7.285)
C6K3							14 (2.318)
C6K4							6 (.993)
C6K5							225 (37.252)
C6K6							27 (4.470)

**Figure 1.** Profiles of latent class membership.

class (labeled *spiteful manipulators*) was represented by high scores on machiavellianism and sadism but average scores on other dark tetrad measures.

Relationship Between Antagonistic Profiles and Ostracism

After the 5-class solution was viewed as the most appropriate solution for the data, participants' class membership was extracted. However, given that only 6 participants were represented in the Low Antagonisers group, we excluded them from further analysis due to insufficient statistical power to warrant meaningful conclusions about any effects observed.

A one-way ANCOVA was conducted and revealed a significant main effect of class membership on perceived ostracism [$F(3,592) = 9.45; p < .001; \eta^2 = .05$], whilst

controlling for attachment-avoidance and anxiety². Post-Hoc tests found no significant differences in perceived ostracism between Average Low ($M=21.75$; $SD=9.67$) and Average High ($M=24.20$; $SD=11.89$) or Spiteful Manipulators ($M=24.35$; $SD=10.84$), or between Average High and Spiteful Manipulators ($p > .05$ in all cases). However, the High Antagonisers group had significantly higher levels of perceived ostracism compared to Average Low ($p < .001$, $d=1.21$), Average High ($p < .001$, $d = .76$), and Spiteful Manipulators ($p < .001$, $d = .73$) groups. Furthermore, attachment avoidance ($b = .31$, $p < .001$, $\eta^2 = .03$) and attachment anxiety ($b = .65$, $p < .001$, $\eta^2 = .08$) were significantly positively related to perceived ostracism. The overall model accounted for 17% of the variance in perceived ostracism scores.

Discussion

In the present study, we explored profiles of antagonistic personality that could reliably discriminate levels of perceived ostracism. Our LCA observed five classes. Of note, the *High Antagonisers* comprised very high levels of machiavellianism, narcissism, psychopathy, and sadism. Those in the High Antagonisers class reported significantly higher levels of perceived ostracism compared to all other classes. We also observed a class comprising very low levels of all antagonistic traits (Low Antagonisers), two classes with average levels (Average Low, Average High), and the *Spiteful Manipulators* class characterized by high levels of machiavellianism and sadism. There were no significant differences in perceived ostracism between the Average Low, Average High and Spiteful Manipulators classes, respectively. The classes observed are mostly consistent with recent literature testing latent profiles of the dark tetrad (e.g., Maheux-Caron et al., 2024). For example, Maheux-Caron et al. (2024) also detected low, moderate, and high antagonistic profiles. However, we did not measure vulnerability (e.g., narcissistic vulnerability) which was also shown to be a key class in Maheux-Caron et al. (2024). It should also be noted that there are other latent profiles observed in the literature, although these merge antagonistic traits with other psychological constructs such as emotional intelligence (Fino et al., 2023) and cyber aggression (Hayes et al., 2021), which were not a focus of the present study.

Our findings are partly consistent with our hypothesis as high levels of antagonistic traits (i.e., the High Antagonisers) were a key class discriminating perceived ostracism. These findings are similar to those of Xu et al. (2024) who found that the dark triad traits significantly predict workplace ostracism. One potential explanation for the findings is that those in the High Antagonisers group may tend to adopt high levels of self-serving cognitions (e.g., concentrating on one's own needs at the expense of others), which then leads to potential ostracism by others as there is a lack of reciprocity (Xu et al., 2024). Indeed, Xu et al. (2024) noted that self-serving cognitions was a mediator of the antagonistic traits-workplace ostracism relationship in their study. Future researchers may consider measuring self-serving cognitions in the context of general perceived ostracism to test for similar mediation effects. Our findings also somewhat support previous research (e.g., Hales et al., 2016) given that disagreeable people (and behaviors) are often perceived as *burdensome* and lead to rejection by others. Indeed, people high in antagonistic traits are likely to bully others (Tokarev

et al., 2017) and such behaviors could feasibly lead to others avoiding them and/or withdrawing their attention, which is then *perceived* as ostracism by the individual.

As the High Antagonisers class also included people with high levels of narcissism, these findings may have potential implications for understanding predictors of intimate partner violence. Indeed, antagonistic traits have been found to link with low levels of agreeableness and engagement in intimate partner violence (Carton & Egan, 2017). While no research to date has examined antagonistic traits and ostracism in the context of intimate partner violence, *per se*, one study found that when ostracism is detected, narcissistic individuals have been found to react aggressively toward their rejectors (Twenge & Campbell, 2003). Further, Twenge and Campbell (2003) argued that narcissists are aggressive in response to rejection due to ego threats and attempt to restore dominance within their intimate relationships. Moreover, such effects may be more salient for males when their gender roles are challenged following ostracism (Chan & Poon, 2023).

In addition, the hypothesis regarding the role of attachment orientation was also supported as attachment anxiety and attachment avoidance significantly predicted perceived ostracism. These findings are consistent with theory (e.g., Riva et al., 2014) and research (e.g., Erozkán, 2009) which has suggested that insecure attachment is linked to increased sensitivity to detect signs of rejection and ostracism. We speculate that these findings may have potential implications for aversive relationship behaviors utilizing coercive control (such as *restrictive engulfment*). In particular, restrictive engulfment behaviors (e.g., controlling a partner's social contacts, attempts to humiliate their partner) are associated with individuals with anxious attachment styles (Toplu-Demirtaş et al., 2019). When perpetrators engage in such tactics these are considered an attempt to overpower, and are related to physically assaulting, their dating partner (Toplu-Demirtaş et al., 2019). It may be that an increased sensitivity to perceive rejection (e.g., fearing abandonment) could increase the use of restrictive behaviors in the attempt to avoid feeling or becoming ostracized. However, further research is needed to explore the role of perceived ostracism in the context of coercive controlling relationship behaviors.

Another potential implication of the findings is that the High Antagonisers may feel chronically threatened (and insecure) by their social environment, and this leads them to perceive ostracism even when perhaps it is not there. Alternatively, it could be that such individuals may have a dysfunctional threshold for acceptance similar to that experienced by those with borderline personality disorder (BPD). For example, De Panfilis et al. (2015) found that those with BPD can still report significant distress even *when included* (vs excluded) in a game of Cyberball (a virtual ball toss game), with such effects dissipating within an overinclusion condition (i.e., passed the ball 45% of the time by 2 computer characters). Moreover, Sharma and Dhar (2024, p. 7) recently argued that some people may experience *ostracism hypersensitivity* whereby they “anxiously expect ostracism, readily misidentify social cues to be exclusionary in nature, and perceive ostracism in non-ostracizing situations”. It could also be that the same episodes of exclusion are interpreted more intensely by those in the High Antagoniser group in comparison to other groups. However, the method adopted in this study does not allow us to consistently discriminate between such hypotheses which could all be plausible. One avenue that future studies may consider exploring is that of using Cyberball overinclusion studies (e.g., De Panfilis et al., 2015).

Our study has some strengths to report. One strength is that this study, to the best of our knowledge, is the first to explore profiles of antagonistic personality that could reliably discriminate levels of perceived ostracism. As such this work extends that of Xu et al. (2024) by not only acknowledging the role of antagonistic traits in predicting perceived ostracism outside the workplace, but also capturing a particular subgroup (The High Antagonisers) who may be particularly sensitive to such perceptions. Moreover, we also captured all current dimensions of the dark tetrad in our study in contrast to the dark triad (Xu et al., 2024).

In terms of theoretical implications, the present study adds to the body of knowledge on the Dark Tetrad by showing how these traits not only correlate with antisocial behavior but also with ostracism perceptions in the longer term. Previous research has primarily focused on the negative interpersonal behaviors associated with these traits (e.g., Jones & Paulhus, 2014; Paulhus & Williams, 2002). By using LCA to identify distinct profiles, our study shows that individuals with high levels of these traits perceive higher levels of ostracism, supporting the idea that personality profiles can influence social perceptions and experiences and expanding the theoretical framework around the Dark Tetrad to include social exclusion dynamics. Moreover, attachment theory has been extensively used to explain individual differences in relationship behaviors and responses to social exclusion (Bartholomew & Horowitz, 1991; Bowlby, 1969). However, its integration with antagonistic traits in predicting ostracism is less explored. Our study bridges this gap by showing how attachment orientations (anxiety and avoidance) and antagonistic traits together predict perceived ostracism. Given that research has demonstrated that attachment styles and antagonistic traits are highly correlated (Nikisch et al., 2020), future researchers may consider further exploring the complex interplay between personality and attachment factors in social exclusion scenarios. Such investigations could then inform future theoretical models.

In terms of methodological advancements, the use of LCA in our study provides a nuanced understanding of how combinations of traits contribute to ostracism perceptions. This methodological approach allows for identifying specific subgroups that are more sensitive to ostracism, highlighting the importance of considering multiple interacting traits rather than isolated ones. This contributes to a more sophisticated understanding of personality dynamics in social exclusion contexts.

As for practical implications, interventions for ostracism have often focused on general social skills training or cognitive-behavioral strategies (Williams, 2009). Our findings suggest that interventions should be tailored to specific personality profiles, particularly those with high antagonistic traits and insecure attachment orientations. For instance, individuals in the 'High Antagonisers' group might benefit from interventions that address their maladaptive cognitions and enhance their social reciprocity skills. Overall, the present research underscores the importance of personalized approaches in addressing ostracism, which can lead to more effective and targeted interventions that can extend to multiple contexts, including workplaces, educational settings, and therapeutic interventions.

As to potential practical implications in forensics settings such as prisons, forensic psychologists may identify prisoners at risk of feeling ostracized early by using the SD-4 (Paulhus et al., 2020) and screening for high scores on all antagonistic traits. Once identified as potentially being at risk, prisoners may be

encouraged to engage with additional social inclusion activities or services (e.g., peer-led initiatives; Seel et al., 2023; voluntary external befriending services [i.e., charities³], chaplaincy, education workshops etc.) on offer where this fits within the routine and structure of the day. However, it should be noted that objective social inclusion alone may not guarantee that the person does not detect ostracism (e.g., they may be hypersensitive and still *feel ignored* even when included by others). It could also be beneficial to acknowledge the potential for aggression or violent acts, self-harm, or both (i.e., dual harm; Slade, 2019) by the individual at risk if prison staff notice that they appear to be ignored, excluded and/or avoided by others. Indeed, prisoners may engage in such behaviors in order to 'get noticed' and attempting to restore one's sense of control is fundamental to recovery from ostracism for some individuals (Williams, 2009). As such, the rehabilitative culture ethos, planning, and activities within prison settings may look to consider ostracism and how to reduce this as part of its wider culture and goals to support reducing reoffending.

It should be noted that our study has some limitations to report. First, whilst our findings and similar work of others (e.g., Turan et al., 2023) have contributed a significant proportion of variance explained in perceived ostracism, we recognize that other factors must also be influential. For example, future researchers may consider exploring factors such as rejection sensitivity (e.g., Gao et al., 2021) or ostracism hypersensitivity (Sharma & Dhar, 2024), social anxiety (e.g., Oaten et al., 2008), depression (Rudert et al., 2021), and paranoia (Waldeck et al., 2022). Second, we cannot confirm causal relationships given all data were collected simultaneously. Indeed, a plausible alternative explanation of the findings may be that major experiences of ostracism (e.g., divorce) in the last six months *changed* one's self-reported personality (see Luhmann et al., 2014). Third, we used a modified version of the WOS (Ferris et al., 2008) to measure general perceived ostracism. This scale was chosen for its robustness in assessing ostracism-related behaviors. However, it could be suggested that modifying the WOS somewhat invalidates the measurement of ostracism. Though it should be noted that the modified WOS has been used to capture general perceived ostracism in previous research (e.g., Waldeck et al., 2017; 2023). Moreover, an exploratory factor analysis revealed similar structural validity to the original WOS. Future researchers may consider testing the construct validity of the modified WOS for use in ostracism research.

Finally, we did not measure the likely outcomes that follow perceived ostracism (e.g., aggression, psychological distress). Indeed, one strategy to redeem psychological needs that are thwarted after feeling ostracized (e.g., control, self-esteem) is to *act out* against others (Williams, 2009), which, as noted above, is arguably more likely when people are high in antagonistic traits. As such, we recommend that future researchers consider testing autoregressive models utilizing cross-lagged panel designs to ascertain the temporal sequencing (see Selig & Little, 2012) of the hypothesized associations between ostracism and antagonistic personality traits whilst also capturing behavioral reactions across time. Given that ostracism is associated with negative outcomes such as increased radicalism (Pfundmair et al., 2024), such longitudinal studies would improve our understanding of when changes in perceived ostracism and antagonistic personality may lead to adverse outcomes.

One final pointer is for future researchers in this area to be cognizant of, and make efforts to address, the potential problem of discriminant validity of similar personality constructs and possible substantive overlaps in labels describing somewhat similar undesirable dark personality traits or patterns of negative behaviors. This pertinent issue is termed the *jungle fallacy* (see Rose et al., 2023).

Conclusion

The present study provides the first attempt to further our understanding of how antagonistic traits and attachment orientation can discriminate perceived ostracism. We found using latent class analysis that some people (e.g., those high in machiavelianism, narcissism, psychopathy, and sadism) report significantly higher levels of perceived ostracism compared to others. We also noted that insecure attachment predicted perceived ostracism. We hope our study encourages future researchers to explore factors that may sensitize people to perceive ostracism.

Notes

1. See [Supplementary information](#) for all modified items for the WOS in this study.
2. Age ($p = .060$) and Gender ($p = .44$) had no significant effects in the model when entered as covariates.
3. Newbridge Bridge Foundation is an example of a befriending charity (UK based) which prioritises social inclusion to reduce reoffending of prisoners (<https://www.newbridgefoundation.org.uk/index>).

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Data Availability

Data is available from the corresponding author upon reasonable request.

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