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THE DARK TRIAD, SOCIOSEXUAL ORIENTATION, AND PERCEPTIONS OF MALE ATTRACTIVENESS: INVESTIGATING THE IMPACT OF SOCIAL CONTEXT

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ABSTRACT

This study examines the impact of the Dark Triad traits (Narcissism, Psychopathy, and Machiavellianism) and sociosexual orientation on the assessment of an unfamiliar man's attractiveness within three social scenarios: solitary, accompanied by a dog, and accompanied by a baby. A sample of 109 female participants (N=109) contributed attractiveness ratings, with an average age of 21.06 ($SD = 3.81$). The findings reveal notable discrepancies in attractiveness ratings across conditions, with higher attractiveness ratings given to the dog condition compared to the baby condition. The ANCOVA integrating Dark Triad traits as covariates exhibited statistical significance, with Machiavellianism emerging as a significant covariate with attractiveness ratings, whereas Sociosexual Orientation did not achieve covariate significance. The implications of these results are contextualized within the existing literature, offering insights into the potential influence of Machiavellianism on attractiveness perceptions and the role of contextual cues in the perceptions of others.

Keywords: Attractiveness, Dark Triad, Sociosexual Orientation, Evolution

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INTRODUCTION

The mate selection process is fundamental to human reproductive behavior, guided by various psychological factors and adaptive strategies (Buss, 1985; Thomas et al., 2020). One crucial element in this process is attractiveness judgments, where individuals evaluate potential partners based on their perceived desirability for short-term or long-term relationships (Thornhill & Gangestad, 1999). Both personality characteristics and contextual cues have been identified as influential factors in shaping attractiveness perceptions and judgments (Lei et al., 2020).

Personality characteristics, particularly the Dark Triad traits encompassing Narcissism, Psychopathy, and Machiavellianism, have been a subject of considerable interest in mate selection research (Valentova et al., 2020). These traits are associated broadly with manipulative and self-interested behaviors, potentially influencing how individuals perceive potential partners (Rogoza et al., 2021). Similarly, sociosexual orientation has been associated with attractiveness ratings, both of the rater and the target of the rating (Stower et al., 2020). For example, Sacco et al. (2012) found that unpartnered women scoring high on sociosexual orientation exhibited a stronger preference for exaggerated sex-typical characteristics in both men's and women's faces.

Contextual cues, on the other hand, play a pivotal role in shaping attractiveness perceptions by providing additional information about potential partners. Social scenarios serve as contextual cues that evoke distinct attractiveness evaluations (Davis & Arnocky, 2020; Geiselman et al., 1984). For example, the Cheerleader Effect suggests that individuals are perceived as more attractive when seen in groups than individually, partly as a consequence of contrast effects (Burns et al., 2021; Carragher, 2022; Walker & Vul, 2014). Similarly, perceptions of attractiveness are influenced by cues indicating a potential mate's willingness or unwillingness to invest in parenting and offspring (Guéguen, 2014).

While previous research has explored the impact of personality traits and contextual cues independently on attractiveness judgments, there is a need to understand how these factors shape mate selection preferences. The present study addresses this gap by examining how personality characteristics, particularly the Dark Triad traits and sociosexual orientation, interact with contextual cues to influence attractiveness ratings. Valuable insights into the complex interplay between psychological traits and

situational cues within the context of mate selection can be derived by exploring and analyzing these interactive effects. Understanding how personality characteristics and contextual cues jointly affect perceptions of attractiveness contributes to a more comprehensive understanding of human mating behavior and perceptions of attractiveness.

Dark Triad

The Dark Triad traits, encompassing Narcissism, Psychopathy, and Machiavellianism, play a significant role in mate selection. These traits are characterized by dominance, manipulateness, egotism, antisocial behaviors, superiority, and impulsivity (Jonason et al., 2015). For Machiavellianism, manipulateness, callous effect, and a strategic-calculating orientation are defining elements (Stiff, 2019). Individuals high in Machiavellianism exhibit manipulative tendencies and a cold attitude toward others, showing reduced empathy and a diminished willingness to help others. Psychopathy, on the other hand, is characterized by callousness and impulsivity (Jones & Paulhus, 2011). People high in Psychopathy tend to have low empathy and a propensity for thrill-seeking behavior, often associated with impulsivity, egocentrism, irresponsibility, and lower levels of guilt and shame (Maneiro et al., 2020).

Narcissism shares similar elements but also features grandiosity and motivation related to ego reinforcement (Wu et al., 2019). Individuals high in narcissism desire dominance, seek attention and admiration, and display reduced guilt and shame compared to others (McCain et al., 2016). Instrumental goals are emphasized in Machiavellianism and Psychopathy, whereas ego-identity goals are emphasized in Narcissism. All three traits share a callousness that motivates interpersonal manipulation, lack empathic qualities, and exhibit higher levels of self-interest. Consequently, individuals high in Dark Triad traits are less likely to be well-suited for long-term relationships and may not express an interest in such commitments (Jonason et al., 2012).

The Dark Triad traits are more closely linked to short-term rather than long-term mating strategies. Previous studies have shown these traits are associated with low agreeableness, leading to conflict and dissatisfaction in long-term relationships (Botwin et al., 1997). Machiavellianism is linked to sexually coercive behavior (McHoskey, 2001), while Narcissism is associated with unrestricted sexuality (Foster et al., 2006). Men high on the Dark Triad may have an advantage in short-term mating, as

their risk-taking and confident demeanor are often reported to be found attractive by potential mates (Hall & Benning, 2006; Bassett & Moss, 2004).

In an online study conducted by Jonason et al. (2012) using Amazon's Mechanical Turk system, researchers found that individuals scoring higher on the Dark Triad traits (Narcissism, Psychopathy, and Machiavellianism) showed a preference for short-term relationships and were less inclined towards long-term relationships. Specifically, Narcissism and Psychopathy were linked to preferences for one-night stands and friends-with-benefits, both forms of casual sex. Similarly, Keldal's (2022) study of Turkish young adults found that individuals with high conscientiousness, low neuroticism, and openness to experience placed significance on virginity, religious alignment, and political similarity in their mate selection strategies. By extension, preferences for casual sex would lead participants to focus on indicators of sexual availability and to attend to a lesser degree to cues of long-term relationship orientation and willingness to engage in parental investment (Goetz, 2014).

Women in short-term mating scenarios tend to prioritize physical attractiveness, which is associated with higher Dark Triad traits (Holtzman & Strube, 2010; Visser et al., 2010). Jonason et al.'s study found that individuals high in Dark Triad traits tend to seek partners with similar traits, confirming that these traits confer an advantage in short-term mating but not long-term mating. The findings suggest that Dark Triad traits are positively associated with low-commitment relationship types and negatively associated with serious romantic relationships. Men exhibit a greater preference for short-term sexual relationships, while women display a stronger preference for serious romantic relationships (Moore et al., 2020). Moreover, men score higher on Psychopathy and Narcissism than women, with only slight differences in Machiavellianism (Jonason & Davis, 2018; Muris et al., 2017; Schmitt et al., 2017; Szabó et al., 2019).

Sociosexual Orientation

Sociosexuality refers to the variability among individuals in their willingness to participate in sexual activities outside of committed relationships (Freyth & Jonason, 2023). Those with a more restricted sociosexuality are less inclined toward casual sex, prioritizing greater love, commitment, and emotional intimacy before engaging in sexual relations with romantic partners (Jones, 1998). Conversely, individuals with a more unrestricted sociosexuality are more willing to engage in casual sex.

They are more at ease engaging in sexual encounters without requiring love, commitment, or emotional closeness (Ka et al., 2020).

Ostovich and Sabini (2004) reported a strong and positive correlation between sex drive and sociosexual orientation, and both sex drive and sociosexual orientation were positively linked to an individual's lifetime number of sexual partners. However, additional findings revealed that sociosexual orientation independently predicted the lifetime number of sex partners, whereas sex drive did not. Similarly, Herzberg et al. (2022) found that individuals with a short-term relationship orientation reported lower levels of relationship quality and were likelier to complain about their partner and the relationship. In contrast, those with a long-term relationship orientation reported higher levels of relationship quality. The study also revealed that higher levels of sexual satisfaction mediated the link between short-term orientation and relationship quality. A similar finding was reported by Webster et al. (2015), who found that men's sociosexual attitudes had a negative association with both men's and women's relationship satisfaction. This negative link was more pronounced in dating couples with shorter relationship durations, and men's satisfaction mediated the relationship between their sociosexual attitudes and commitment.

Context and Perceptions of Attractiveness

Recent studies have emphasized the importance of social context in shaping attractiveness judgments (Clarkson et al., 2020; Davis & Arnocky, 2020; Utz, 2010; Wang, 2010). Social context refers to the specific environment or situation in which individuals are evaluated for attractiveness. The presence or absence of specific environmental cues can influence how individuals are perceived in terms of attractiveness. Social context cues can influence attractiveness perceptions, including, for example, being alone or surrounded by others (Peng et al., 2020).

When individuals are seen in isolation, perceptions of attractiveness may focus more on their characteristics and attributes. Conversely, being in the company of others may trigger comparisons and evaluations based on group dynamics. The presence of others might highlight qualities associated with social skills, leadership, or the ability to form positive relationships. For example, Peng et al. (2020) found that participants rated a group's physical attractiveness higher than its members' average attractiveness, and an individual's attractiveness was rated higher when presented as part of a group compared to being evaluated in isolation. A similar finding was reported by

Hsieh et al. (2021), who found evidence supporting the “Cheerleader Effect:” the phenomenon where faces are perceived as more attractive when presented within a group of other faces as opposed to when viewed in isolation (Walker & Vul, 2014). Other contextual factors can also influence perceptions of attractiveness. In a study exploring attractiveness as a function of perceptions of parental investment, Brase (2006) explored the hypothesis that women would pay more attention to cues related to a prospective mate's disposition for investing in children. Findings indicated that women tended to be more critical than men when evaluating potential mates, and cues indicating a positive disposition towards parental investment positively influenced female evaluations of male attractiveness. Similarly, Guéguen (2014) conducted an experiment where a male participant encountered a woman and her baby in a social setting. In one scenario, the participant interacted with the baby; in the second scenario, the male did not notice the baby. Later, when the participant approached a nearby young woman and asked for her contact information, the results revealed that the male received more positive responses from women when he had previously interacted with the baby than when he had ignored the baby (Guéguen, 2014).

Additional research has examined the role of pets and children as cues to an individual's sociability, care orientation, and value as a potential long-term mate, in the perception of male attractiveness. Gray et al. (2015) reported research findings showing that cats and dogs acted as ‘social barometers’ among individuals choosing a mate, and this effect was stronger for women than men. A similar finding was reported by Tifferet et al. (2013), who found that dog ownership increased ratings of long-term attractiveness. Zinck et al. (2021) reported that mating strategy was associated with the presence or absence of dependents, including children and pets, in online dating profiles. Specifically, men oriented toward a long-term mating strategy were more likely to include dependents in their dating profiles as one indicator of their willingness and ability to invest. Roney et al. (2006) reported that males’ interest in infants influenced women’s attractiveness ratings, as interest in infants was perceived as a cue to that individual’s long-term mate quality and willingness to demonstrate high levels of parental investment (see Buss, 2007).

Current Study and Rationale

The current study aims to investigate the predictive role of the Dark Triad traits (Narcissism, Psychopathy, and Machiavellianism) and sociosexual orientation in shaping ratings of attractiveness of a man in three distinct conditions: alone, with a dog, and with a baby. The Dark Triad traits represent personality characteristics associated with manipulative, exploitative, and self-centered behaviors previously linked to interpersonal dynamics and mate selection preferences. On the other hand, sociosexual orientation reflects individual differences in willingness to engage in short-term sexual relationships versus long-term committed partnerships, and it is further related to attractiveness ratings (Garza & Byrd-Craven, 2021; Price et al., 2013; Swami et al., 2008).

The rationale for this study lies in understanding how specific personality traits might influence perceptions of attractiveness across different conditions with unique cues provided to participants. Additionally, examining the role of sociosexual orientation can shed light on how varying levels of willingness to engage in short-term or long-term relationships may impact attractiveness judgments. By exploring the mediating role of Machiavellianism, the study aims to discern potential underlying mechanisms driving the relationship between different conditions and attraction ratings.

HYPOTHESES

Hypothesis 1: In consideration of the socio-evolutionary framework and its implications for mate selection, it is hypothesized that significant variations in attractiveness ratings will be discernible across the three conditions of interest: a man depicted alone, a man portrayed in the company of a dog, and a man accompanied by an infant. Drawing upon the concept of assortative mating and the potential for these conditions to signal distinct qualities, participants are expected to rate the man's attractiveness differently in response to the contextual cues presented by each condition.

Hypothesis 2: The Dark Triad traits (Narcissism, Psychopathy, and Machiavellianism) will significantly covary with attractiveness ratings across all three conditions (alone, with a dog, and with a baby). Participants scoring higher in the Dark Triad personality characteristics are expected to rate the model as more attractive in conditions without cues to long-term parental investment.

Hypothesis 3: Sociosexual orientation will significantly covary with attractiveness ratings across all three conditions. Individuals with a more restricted sociosexual orientation (preferring long-term committed relationships) will rate the man as more attractive than individuals with a more unrestricted sociosexual orientation (open to short-term relationships) in the condition with the baby as a cue to long-term parental investment.

METHODS

Procedure

Participants were recruited through a non-random convenience sampling method using an online survey software program (*Google Forms*). The survey link was distributed among undergraduate psychology students across various university courses, and recruitment was conducted through an announcement shared across relevant university departments. The study obtained approval from the responsible institutional review board (IRB) to ensure adherence to ethical guidelines. No funding was received, and no conflicts of interest were reported.

Before participating in the study, all potential participants were presented with a detailed informed consent form clearly stating the purpose of the research and their rights as participants. They were informed about the voluntary nature of their participation and assured of the confidentiality and anonymity of their responses. Only those who provided explicit informed consent proceeded to participate in the study. A post hoc power analysis was performed using G*Power (Faul et al., 2009) to assess the study's statistical power. The analysis utilized a total sample size of 109 participants and revealed that the study's statistical power exceeded 0.90, based on conventional standards of effect size estimation. This level of statistical power indicates that the study is well-equipped to detect moderate to large significant effects, aligning with conventional standards as proposed by Cohen (1977).

Measures

Short Dark Triad (SD3)

The original version of the SD3, developed by Jones and Paulhus (2014), has been widely used to assess Machiavellianism, Narcissism, and Psychopathy in various cultural contexts. The Turkish version of the Short Dark Triad (SD3) scale, translated and validated by Ağralı Ermiş, Şahin, and Demirus (2018), was used in the current

study. Each item on the SD3 asks participants to indicate on a 1 to 5 scale (strongly disagree to strongly agree) how accurate each statement is for them. Reliability analysis of the Machieivialism subscale demonstrated acceptable reliability based on the obtained Cronbach's α coefficient of 0.640. The reliability analysis for the Narcissism subscale demonstrated acceptable internal consistency ($\alpha= 0.654$). The Psychopathy subscale had good internal consistency reliability with Cronbach's α of 0.706.

Sociosexual Orientation Inventory-Revised (SOI-R)

The Sociosexual Orientation Inventory-Revised (SOI-R) is a self-report questionnaire developed by Penke and Asendorpf (2008) to assess individual differences in sociosexuality, which refers to the propensity for engaging in casual, uncommitted sexual relationships. The inventory comprises nine items and measures sociosexuality across three subscales: behavior, attitude, and desire. The current study used the SOI-R's five-point Turkish version (Penke, n.d.) to reduce the participant response burden. The behavior subscale gauges the frequency of casual sex and changing sexual partners; the attitude subscale assesses individuals' views toward uncommitted sex, while the desire subscale measures the desire for sexual interactions with individuals outside of a romantic relationship. The SOI-R can be evaluated by considering each subscale separately or by summing the subscales to create a total SOI-R. Reliability analysis was conducted to evaluate each subscale. The attitudes subscale of the SOI-R exhibited good internal consistency reliability with Cronbach's α of 0.80. The desire subscale of the SOI-R had good internal consistency reliability with Cronbach's α of 0.78. The behaviors subscale of the SOI-R exhibited high internal consistency reliability with Cronbach's α of 0.89.

Manipulation

Participants were assigned randomly to one of three groups, each exposed to different conditions: a man alone, a man holding a dog, and a man holding a baby. The random assignment ensured that each participant had an equal likelihood of being placed in any of the three groups, enhancing the comparability of the groups and reducing potential bias. Participants were then tasked with evaluating the perceived attractiveness of the man depicted within each condition, utilizing a 7-point Likert scale with response options ranging from 1 (Not Attractive) to 7 (Very Attractive). The depicted male figure was unfamiliar to the participants. See Figure 1.

Figure 1.
Photos in each condition.



RESULTS

Descriptive Statistics

In this study, data were collected from 109 participants ($N=109$) to examine the relative influence of the Dark Triad, sociosexuality, and contextual cues related to perceptions of attractiveness. The sample consisted entirely of females, with 16 individuals (14.7%) identifying as bisexual and 93 (85.3%) identifying as heterosexual. The participants' ages ranged from 18 to 43 years, with a mean age of 21.06 ($SD = 3.81$). Descriptive statistics were computed for Psychopathy, Machiavellianism, and Narcissism. The total score for Psychopathy was 18.1 ($SD = 5.25$), Machiavellianism had a mean of 19.9 ($SD = 6.36$), and Narcissism had a mean score of 27.2 ($SD = 5.25$). For Sociosexual Orientation, the participants' mean scores on the subscales of the SOI-R were as follows: Behaviors = 6.62 ($SD = 4.17$), Attitudes = 7.69 ($SD = 1.85$), Desire = 6.28 ($SD = 2.58$), and the total scale had a mean of 20.6 ($SD = 6.60$). See Table 1.

Table 1.
Descriptive Statistics (SD3 and SOI-R)

Variable	Mean (SD)
SOI-R Behaviors	6.62 (SD = 4.17)
SOI-R Attitudes	7.69 (SD = 1.85)
SOI-R Desire	6.28 (SD = 2.58)
SOI-R Total	20.6 (SD = 6.60).
Machiavellianism	19.9 (SD = 6.36)
Psychopathy	18.1 (SD = 5.25)
Narcissism	27.2 (SD = 5.25)

Correlational Analysis

The correlation matrix revealed several significant relationships among the variables. Specifically, the total score on the Sociosexual Orientation Inventory showed strong positive correlations with the Behaviors subscale ($r = 0.868$, $p < .001$), the Attitudes subscale ($r = 0.528$, $p < .001$), and the Desire subscale ($r = 0.780$, $p < .001$). Moreover, there were significant positive correlations between the Dark Triad traits, with Machiavellianism positively correlating with Narcissism ($r = 0.620$, $p < .001$) and Psychopathy ($r = 0.257$, $p < .01$). Additionally, the Narcissism scores were positively correlated with the Sociosexual Orientation total scores ($r = 0.241$, $p < .05$) and the Behaviors subscale ($r = 0.293$, $p < .01$). See Table 2.

Table 2.
Correlations

	1	2	3	4	5	6
(1)Narcissism	1					
(2)Psycho.	.620**	1				
(3)Mach.	.056	.257**	1			
(4)Behaviors	.293**	.258**	.022	1		
(5)Attitudes	.121	.163	.103	.189*	1	
(6) Desire	.057	.173	.143	.471**	.329**	1
(7) SOI-R	.241*	.276**	.071	.868**	.528**	.780**

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level.

Hypothesis 1

To examine Hypothesis 1, a one-way analysis of variance was conducted with condition as the independent variable and attractiveness ratings as the dependent variable. The overall model exhibited a statistically significant effect, $(2, 106) = 5.29$, $p = 0.00$, $\eta^2 = 0.09$, indicating that the different conditions accounted for approximately 9.1% of the variance in attractiveness ratings.

Post hoc comparisons explored distinct differences in attractiveness ratings across the various conditions. Comparing the man alone condition with the dog condition revealed a mean difference of -0.95 ($t(106) = -2.48$, $p = 0.04$, 95% CI $[-1.12, -0.12]$, Cohen's $d = -0.62$). This outcome indicates that participants rated the attractiveness of a man accompanied by a dog significantly lower compared to when he was alone. When contrasting the man alone condition with the baby condition, the calculated mean difference was 0.08 ($t(106) = 0.23$, $p = 0.97$, 95% CI $[-0.43, 0.54]$, Cohen's $d = 0.05$). This suggests that there was no substantial difference in attractiveness ratings between conditions. A significant difference was found between the dog condition and the baby condition, with a mean difference of 1.03 ($t(106) = 3.03$, $p = 0.01$, 95% CI $[0.22, 1.12]$, Cohen's $d = 0.67$). This indicates that participants found the man accompanied by a dog significantly more attractive than when he was with a baby.

Hypothesis 2

A one-way between-subjects analysis of covariance (ANCOVA) was conducted to examine the effects of the condition on participants' perceptions of attractiveness with the Dark Triad as the covariate. Descriptive statistics revealed that participants' mean perceptions of attractiveness varied across the three conditions. The mean perception of attractiveness for the man-alone condition was 2.11 (SD = 1.20), for the dog condition 3.05 (SD = 1.9), and for the baby condition 2.02 (SD = 1.33). Results indicated that the overall model was significant ($F(5, 103) = 3.974, p = 0.00, \eta^2 = 0.09$). The main effect of condition was significant ($F(2, 103) = 5.643, p = 0.0, \eta^2 = 0.09$). However, the covariates of Narcissism ($F(1, 103) = 0.13, p = 0.72, \eta^2 = 0.00$) and Psychopathy ($F(1, 103) = 0.81, p = 0.37, \eta^2 = 0.00$) were not significant predictors of attractiveness. Machiavellianism was significantly associated with attractiveness ($F(1, 103) = 7.79, p = 0.00, \eta^2 = 0.06$). See Table 3.

Table 3.

ANCOVA--Perceptions of Attractiveness and Dark Triad

	SS	df	MS	F	p	η^2
Overall model	44.34	5	8.86	3.974	0.002	
	2		8			
Condition	25.00	2	12.5	5.643	0.00	0.092
	8		04			
Narcissism	0.277	1	0.27	0.125	0.72	0.001
			7			
Psychopathy	1.789	1	1.78	0.808	0.37	0.007
			9			
Mach.	17.26	1	17.2	7.794	0.00	0.063
	8		68			

Hypothesis 3

The ANCOVA analysis examining attractiveness ratings across conditions with Sociosexual Orientation as the covariate yielded a significant overall model, $F(5, 103) = 2.90$, $p = 0.02$, $\eta^2 = 0.10$. Condition had a significant effect, $F(2, 103) = 5.65$, $p = 0.01$, $\eta^2 = 0.10$, indicating the influence of different conditions (man alone, man with dog, man with baby) on participants' attractiveness ratings. However, the attitudes subscale of the SOI-R did not significantly affect attractiveness ratings, $F(1, 103) = 0.00$, $p = >.05$, $\eta^2 = 0.00$. The behaviors subscale had a marginal effect approaching conventional standards of significance, $F(1, 103) = 3.21$, $p = 0.08$, $\eta^2 = 0.03$, while the desire subscale showed no significant effect, $F(1, 103) = 0.02$, $p = >.05$, $\eta^2 = 0.00$. See Table 4.

Table 4.

ANCOVA--Perceptions of Attractiveness and Sociosexual Orientation

	Sum Squares	of df	Mean Square	F	p	η^2
Overall model	33.66965	5	6.73393	2.90478	0.017	
Condition	26.18362	2	13.09181	5.65166	0.005	0.096
Behavior	7.42480	1	7.42480	3.20525	0.076	0.027
Attitude	0.00623	1	0.00623	0.00269	0.959	0.000
Desire	0.05500	1	0.05500	0.02374	0.878	0.000

DISCUSSION

In the current study, we aimed to investigate the role of the Dark Triad traits (Narcissism, Psychopathy, and Machiavellianism) and sociosexual orientation in shaping ratings of attractiveness of a man in various social contexts: alone, with a dog, and with a baby. The Dark Triad traits represent personality characteristics associated with manipulative and exploitative behaviors. In contrast, sociosexual orientation reflects individual preferences for short-term versus long-term mating strategies.

Based on the three hypotheses, our study investigated the interplay of personality traits in shaping perceptions of attractiveness under varying conditions. Hypothesis 1 examined differences in attractiveness ratings across the three conditions. While Hypothesis 2 predicted a significant relationship between Dark Triad traits as a covariate and attractiveness ratings across conditions. We hypothesized that individuals scoring higher on Dark Triad traits would rate the model as more attractive in situations lacking cues to long-term parental investment. Hypothesis 3 predicted that sociosexual orientation would exhibit a significant relationship with attractiveness ratings across all conditions. We expected that individuals with a more restricted sociosexual orientation, indicating a preference for committed relationships, would find the man more attractive when holding a dog, as dogs have been associated with cues for long-term parental investment.

Hypothesis 1

The findings supported Hypothesis 1, revealing significant differences in attractiveness ratings across different conditions. The observed differences in attractiveness ratings across conditions suggest that external situational factors exert a discernible influence on how individuals evaluate potential partners, a finding that confirms previous research (Guéguen, 2014; Hong et al., 2012; Stower et al., 2020; Wang et al., 2010). The presence of a dog or a baby significantly altered participants' attractiveness ratings, underscoring the significance of such cues in signaling certain traits or attributes relevant to mate selection (Tifferet et al., 2013). These findings align with the socio-evolutionary framework, which suggests that humans are sensitive to cues that may indicate qualities such as resource provision, caregiving, or companionship potential (Buss, 2007).

The lower attractiveness ratings assigned to the man when accompanied by a dog than the man alone suggest that certain contextual cues might evoke specific evaluative responses. This could be attributed to the perceptions associated with dog ownership, which often include connotations of responsibility, loyalty, and the ability to care for others. In contrast, the lack of significant difference in attractiveness ratings between the man alone and with baby conditions suggests that the presence of a baby did not substantially impact perceived attractiveness. This could be due to the complex set of attributes signaled by an infant, potentially involving nurturing and caregiving capacities that are not as salient in a brief evaluative context. The significantly higher attractiveness ratings for the man when accompanied by a dog compared to when he was with a baby highlight the unique and potent role that dogs might play as social and emotional cues in mate selection and support the findings of Tifferet et al. (2013) and Zinck et al. (2021). Dogs are often regarded as companions that evoke positive emotions and enhance social interactions. This perceived capacity for enhancing social bonds might contribute to the increased attractiveness ratings observed.

Hypothesis 2

Hypothesis 2 examined the relationship between the Dark Triad, contextual cues, and individuals' perceptions of attractiveness. The significant overall model observed underscores the influence of the experimental conditions and Dark Triad traits on participants' attractiveness ratings (Brewer et al., 2021; Jonason et al., 2012; Jonason & Sherman, 2020). This finding aligns with previous research suggesting that personality characteristics and situational cues influence potential partners' desirability and attractiveness perceptions (Goetz et al., 2014; Gray et al., 2015; Roney et al., 2006). Importantly, the main effect of the condition reached significance, highlighting the differential influence of the presence of a dog or a baby on attractiveness judgments. The Dark Triad traits of Narcissism and Psychopathy did not emerge as significant predictors of attractiveness in our study. However, the observed significance of Machiavellianism as a predictor of attractiveness points to its unique role in shaping these perceptions. This could be due to the Machiavellian trait aligning more closely with specific qualities that participants may consider attractive in certain scenarios. Machiavellianism, characterized by strategic and manipulative tendencies, might

contribute to higher attractiveness ratings for the dog condition than the baby condition because participants may perceive the presence of a dog as symbolizing social adeptness and the ability to handle complex social dynamics, aligning with Machiavellian traits, which could enhance the man's desirability. The baby's condition also introduces a unique dimension where the baby could be perceived as a potential rival for attention and resources. This dynamic might render the dog condition more appealing due to its compatibility with Machiavellian inclinations, ultimately influencing attractiveness ratings.

Previous research on Machiavellianism and mating provides tentative evidence to support this hypothesis. For example, Goncalves and Campbell (2014) reported that high levels of Machiavellianism were related to the derogation of rivals, and Carter et al. (2015) found an association between Machiavellianism and intra-sex competition among females. This suggests, although tentatively, that a baby may signify a competitor or suggest that the male in the photograph was already in a relationship. In contrast, in condition 2, the dog was not perceived to pose a threat.

Hypothesis 3

The investigation of Hypothesis 3 revealed that different conditions, namely the presence of a dog or a baby alongside a man, substantially impact participants' attractiveness assessments. This aligns with the notion that contextual cues are crucial in shaping attractiveness perceptions, indicating the contextual components of mate preferences (Delgado-Rodríguez et al., 2023; Gray et al., 2015; Hong et al., 2012; Roney et al., 2006). Our results confirm prior research indicating that social cues, such as animals or children, can affect judgments of potential partners' desirability (Buss, 2007; DeBruine et al., 2006; Roney et al., 2006).

While our study demonstrated that contextual cues significantly influence attractiveness ratings, it is noteworthy that sociosexual orientation did not emerge as a predictor of attractiveness, which is contrary to previous research (Brown et al., 2019; Brown & Sacco, 2017; Provost et al., 2006; Sacco et al., 2012). The lack of a significant effect might suggest that participants' self-reported attitudes and desires for short-term or long-term relationships did not guide their initial judgments of attractiveness in the experimental context we examined. However, the marginal effect observed in the behaviors subscale indicates a potential role for reported behavioral tendencies in shaping attractiveness perceptions. Sociosexual orientation's impact on

attractiveness might be more nuanced and context-dependent, or the manipulation did not reach the strength needed to elicit a difference.

Limitations and Future Directions

While offering valuable insights into the interplay between personality traits, sociosexual orientation, and attractiveness judgments in diverse social contexts, the present study has limitations that deserve consideration. First, the limited sample size of 109 participants, consisting solely of females, may impact the generalizability of the findings to broader populations. Future research should include larger and more diverse samples, encompassing participants of different genders and cultural backgrounds, to enhance the study's external validity and ensure a more comprehensive understanding of attractiveness perceptions.

Another potential limitation is using photographs to elicit participants' attractiveness ratings. While photographs can provide valuable insights into participants' attractiveness ratings, they may only partially capture real-life interactions and face-to-face encounters, which can evoke more nuanced responses and behaviors. Incorporating more ecologically valid methodologies, such as real-life interactions, observational approaches, and field experiments, can offer a more in-depth examination of attractiveness judgments under different social conditions.

Moreover, the study focused solely on the Dark Triad traits and sociosexual orientation as predictors of attractiveness judgments. While these traits are relevant, other personality factors and individual differences may also shape attractiveness perceptions. Future research could expand the scope of personality traits under investigation to include a broader range of individual characteristics, providing a more comprehensive analysis of mate selection preferences. Exploring additional mediating and moderating factors that may influence attractiveness judgments in different social contexts can provide a more nuanced understanding of mate selection preferences and perceptions of attractiveness. Personality traits beyond the Dark Triad, sociosexuality, and contextual factors specific to each scenario may influence attractiveness perceptions.

Contributions of the Current Study

This study makes several significant contributions to understanding attractiveness judgments and mate selection preferences in diverse social contexts. First, the find-

ings demonstrate that contextual cues influence perceptions of attractiveness, a finding that supports and expands on research in social and evolutionary psychology (Buss, 2007). Second, this study found an association between the Dark Triad traits and perceived attractiveness across different scenarios, providing empirical support for the relevance of these personality characteristics in influencing perceptions of male attractiveness. The insights gained from this research can inform future studies exploring the intricacies of mate selection preferences, providing valuable contributions to the broader literature on evolutionary psychology and mate choice theories. The current study's contributions shed light on the multifaceted nature of attractiveness judgments and their underlying mechanisms in various social contexts. By identifying the role of personality traits and sociosexual orientation, this research deepens our understanding of the factors influencing mate selection preferences, enriching the field of evolutionary psychology and contributing to the broader understanding of human mating behavior and the role of contextual cues on perceptions of attractiveness.

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