

The Attractiveness of Dark Triad Characteristics in Facial Composites with Respect to Gender

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ABSTRACT

The attractiveness of the human face is influenced by many different facial characteristics, which convey important information about the other person. Facial features provide signals related to various biological and psychological qualities of an individual supporting mutual mating interactions. Previous studies have mainly focused on the identification of features that indicate positive and desirable characteristics in the potential partner. However, it is equally important for people to react to the presence of negative characteristics. In terms of high-risk features, Dark Triad characteristics, including subclinical narcissism, Machiavellianism, and psychopathy, play a major role. The study focuses on the assessment of the attractiveness of these three characteristics in female and male computerised facial composites, while taking the gender of the assessor into consideration. The results show that the only negatively assessed characteristics were identified by female evaluators (male narcissism and female psychopathy). The other significant results showed that the Dark Triad characteristics are evaluated as attractive.

1. Introduction

The attractiveness of the people we meet is influenced by a number of factors. In the initial stages of interpersonal interactions, we mainly focus on non-verbal cues (Sabeti et al., 2021), many of which come from our perceptions of human faces. We often rely on the opinions we form from our perception of the facial features of another person. Facially derived information is more readily available than behavioural expressions (Little et al., 2006). It is assumed that the ability to detect various characteristics from faces is influenced by evolution (Little et al., 2011; Richmond et al., 2018). As many facial features provide information about an individual, which is of substantial importance within interpersonal and mating interactions, evolutionary mechanisms have made us able to reliably detect such features and evaluate their presence in other people positively (with the present experience of attractiveness).

Previous research in the field of the attractiveness of human face has suggested there are several features which are perceived as attractive and that these preferences carry evolutionary

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importance. For instance, facial symmetry signalises developmental stability (Simmons et al., 2004), which reflects the ability of an organism to resist various adverse environmental or genetic factors (Møller, 1997). Neoteny refers to the perceived age of an individual and conveys information on the degree of youthful fecundity (mainly in females) (Jones, 1995). Facial averageness is a sign of more diverse genetics (or heterozygosity) which in turn improves immune function (Jones & Jaeger, 2019). Women with prominent feminine facial features (smaller jaws, lighter brow-ridges, higher cheekbones and larger foreheads – Gray & Boothroyd, 2012) also have higher oestrogen levels (Probst et al., 2016), which correlates with fertility (Lipson & Ellison, 1996). On the other hand, the substantial presence of sexually dimorphic masculine features in male faces is a sign of high testosterone levels (Penton-Voak & Chen, 2004) or better sperm quality (Soler et al., 2014).

In addition to characteristics that signal the biological qualities of an organism, it was also found that individuals tend to prefer the faces (consider them attractive) of individuals who have desirable psychological characteristics. As it turns out, humans are capable of reliably detecting extraversion (Penton-Voak et al., 2006), intelligence (Talamas et al., 2016), warmth (Wen et al., 2020) or agreeableness (Little & Perrett, 2007) based on facial features and subsequently assess those features as attractive. Similarly, subjects tend to avoid (and experience aversion towards) the presence of facial features that suggest characteristics that are undesirable within interactions. These include aggression, dominance, coldness or dishonesty, which may (especially in terms of parental investments) be a threat, hence their presence is judged to be unattractive in the assessment of facial features (Perrett et al., 1998).

One of the most prominent theories related to the characteristics that are considered high-risk within interpersonal interactions is the concept of the Dark Triad. It is a combination of three psychological characteristics – subclinical narcissism, Machiavellianism and psychopathy. Although these characteristics are referred to as “the triad” and they partially overlap, many authors suggest that they should be studied individually (see e.g., Deutchman & Sullivan, 2018; Paulhus & Williams, 2002; Nübold et al., 2017). Narcissism in the context of the Dark Triad is defined by grandiosity, entitlement, dominance, and superiority (Dębska et al., 2021). Machiavellianism refers to the tendency to maximise personal benefit and achieve individual goals by using other people as tools. It is characterised by a strong intent and ability to use manipulative tactics in interpersonal relations to gain and maintain power (Bereczkei, 2017). Psychopaths are considered to be charming or pleasant in the short term but in the long run they find it difficult to maintain successful interpersonal relationships, they lack both trust and care for others (Morf & Rhodewalt, 2001). It is this final characteristic that is considered to be the “darkest” and may be considered the highest risk (Tarik & Kolenovic-Djapo, 2021; Pechorro et al., 2022). The subclinical nature of all three characteristics implies that they are neither clinically diagnosed nor treated (Diller et al., 2021).

Research into attraction (or aversion) to individuals that exhibit elevated levels of Dark Triad characteristics has produced conflicting results. Holtzman & Strube used whole-body photographs of real individuals in their research and asked participants to assess their attractiveness, while observing correlations with the presence of Dark Triad traits identified by self- and peer reports. No correlation between attractiveness and Dark Triad characteristics was found; however, when they extracted the variable “effective adornment”, they found that individuals with Dark Triad characteristics are able to effectively improve their attractiveness through purposeful adornment (Holtzman & Strube, 2013). Thus, the degree of attractiveness of the body of an individual with narcissistic, Machiavellian or psychopathic traits was the result of an active effort to present a more attractive appearance. A meta-analysis of studies that specifically observed the attractiveness of narcissistic individuals came to the conclusion

that the correlation between narcissism and attractiveness is insignificant (Holtzman & Strube, 2013). More recent studies in this field are rare.

2. Objective

The objective of the paper is to study an assessment of the attractiveness of female and male facial composites within a quasi-experimental situation. Specifically, with regard to the presence of characteristics of subclinical narcissism, Machiavellianism and psychopathy, and to further evaluate this assessment in terms of the gender of the assessor.

3. Method

3.1. Procedure and subjects

The first wave of participants was personally approached by students from the humanities department at the university. Additional participants were recruited by snow-ball technique. After they had agreed to participate in the research, they received a link to an online questionnaire created on the Survio platform. Before they could fill-in the questionnaire, the participants were informed of the purpose of the research, and given the option to withdraw at any stage, without any consequences. This type of data collection combines the advantages of anonymous questionnaires (an online form with the data collected via an external platform), and personal data collection (direct personal contact with specific participants using their personal contact details).

The research sample included 631 participants from 13 to 80 years of age (mean age = 36.97 years), 48.8% (N = 308) of the participants were men.

3.2. Instruments and data analysis

The quasi-experimental situation for the assessment of the attractiveness of the individual facial features of the Dark Triad was created through the compulsory selection of one of two faces based on a subjective perception of their attractiveness ("Which face do you like more?"). In all cases, one of the faces had features typical of a low level of the specific characteristic (individual example of subclinical narcissism, Machiavellianism, and psychopathy), while the opposing face had features typical of a higher level of the same characteristic. The advantage of using computer-generated facial composites is that they work with artificial (not real) faces that are similar (since they are the result of averaging, thus specific features found in the faces of real people are eliminated) and only differ by the features that indicate a high or low level of the desired characteristic. For the purposes of this study and with the permission of the author, we used male and female faces that indicated high and low levels of narcissism, Machiavellianism, and psychopathy, from the Faceaurus database (Holtzman, 2018). The process used in the creation of facial prototypes is described in Hotzman (2011). Prototypical male and female faces with high and low levels of narcissism are shown in Figure 1.

The data was processed using the IBM Statistical Package for the Social Sciences (SPSS), version 28. Using a Chi-square test an evaluation was made of the statistical significance of the selection, based on an assessment of attractiveness, of a single facial composite from two composites with different levels of a specific Dark Triad characteristic (narcissism, Machiavellianism, and psychopathy).

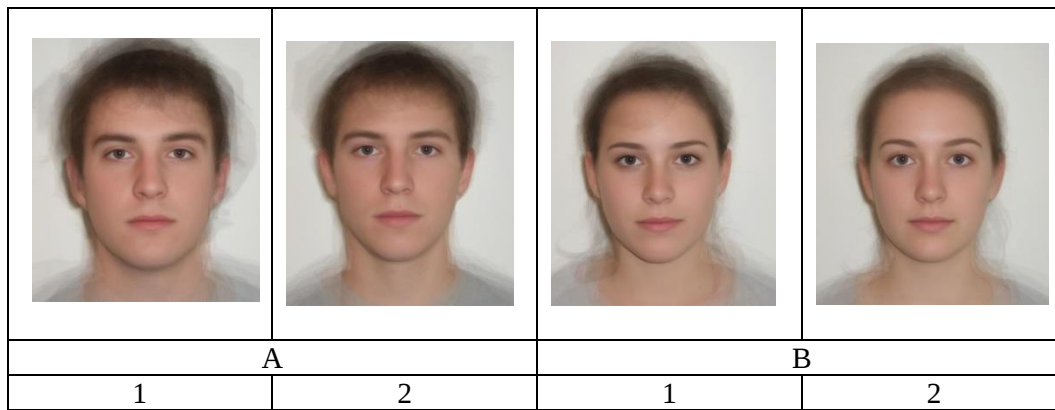


Figure 1. Male (A) and female (B) facial composites that represent high (1) and low (2) levels of narcissism

Note: Reprinted with the permission of author

Source: Holtzman (2018)

4. Results

In the assessment (see Table 1) of male faces, the subjects significantly more often considered the faces that displayed high levels of Machiavellianism and psychopathy to be more attractive. On the other hand, faces with narcissistic features were perceived to be significantly less attractive. In the assessment of female faces, the selection of the more attractive face was only significant in relation to Machiavellianism – women that exhibited the features of this characteristic were considered more attractive by the assessors.

Table 1.

The number and statistical significance of the selection of male and female facial composites with high levels of Dark Triad characteristics (the whole sample)

Attractiveness of	Male face with a high level of DT characteristic			Chi-square Test	
	Observed N/%	Expected N	Residual	X^2	Asymp. Sig.
Narcissism	266/42.15	315.5	-49.5	15.532	<.001***
Machiavellianism	430/68.15	315.5	114.5	83.108	<.001***
Psychopathy	384/60.86	315.5	68.5	29.645	<.001***
	Female face with a high level of DT characteristic			Chi-square Test	
	Observed N/%	Expected N	Residual	X^2	Asymp. Sig.
Narcissism	319/50.55	315.5	3.5	.078	.781
Machiavellianism	396/62.76	315.5	80.5	41.079	<.001***
Psychopathy	296/46.91	315.5	-19.5	2.410	.121

Note: DT = Dark Triad; *** p <.001

Source: Authors

The cross-gender specificities of the attractiveness of faces that represented high levels of narcissism, Machiavellianism, and psychopathy are shown in Table 2. This more detailed analysis proves that individuals generally have a distinct opinion on the attractiveness of Dark Triad characteristics in male faces – their choices are not arbitrary; they are statistically significant in both genders and in all three characteristics, with the exception of the assessment of narcissism in male faces by male subjects. On the contrary, the assessment of female faces is not so homogenous. Clear-cut results were only found for Machiavellianism, which both sexes found attractive. Moreover, women prefer female faces with low levels of psychopathy, although this preference is not as significant as the preference for Machiavellianism.

Table 2.

The number and statistical significance of the selection of male and female facial composites with high levels of Dark Triad characteristics in men and women (separately)

Gender	Attractiveness of	Male face with a high level of DT characteristic			Chi-square Test	
		Observed N/%	Expected N	Residual	X ²	Asymp. Sig.
Males (N = 308)	Narcissism	142/46.10	154.0	-12.0	1.807	.171
	Machiavellianism	213/69.16	154.0	59.0	45.208	<.001***
	Psychopathy	183/59.42	154.0	29.0	10.922	<.001***
Females (N = 323)	Narcissism	124/38.39	161.5	-37.5	17.415	<.001***
	Machiavellianism	217/67.18	161.5	55.5	38.146	<.001***
	Psychopathy	201/62.23	161.5	39.5	19.322	<.001***
		Female face with a high level of DT characteristic			Chi-square Test	
		Observed N/%	Expected N	Residual	X ²	Asymp. Sig.
Males (N = 308)	Narcissism	165/53.57	154.0	11.0	1.571	.210
	Machiavellianism	202/65.58	154.0	48.0	29.922	<.001***
	Psychopathy	156/50.65	154.0	2.0	.502	.820
Females (N = 323)	Narcissism	154/47.68	161.5	-7.5	.697	.404
	Machiavellianism	194/60.06	161.5	32.5	13.080	<.001***
	Psychopathy	140/43.34	161.5	-21.5	5.724	.017*

Note: DT = Dark Triad; *** p <.001; * p <.05

Source: Authors

5. Discussion

Different results were obtained in the assessment of the attractiveness of Dark Triad characteristics in male and female facial composites. The assessment of the male facial composites produced less ambiguity than that of the female ones – the choice of an attractive male facial composite was statistically significant for all three characteristics (with $p < .001$ for each). The female facial composite was only found to be attractive to a statistically significant level for the Machiavellian features. Among male faces, the subjects considered the composite with high levels of Machiavellianism to be the most attractive, followed by the composite that represented high levels of psychopathy. The least attractive (albeit still statistically significant) was the composite with a low level of narcissism. The preference of features with high levels of Machiavellianism and psychopathy and low levels of narcissism may correlate with the cultural preferences of society, which praises men with masculine characteristics (see e.g., Marcinowska et al., 2019; Ekrami et al., 2021; Fiala et al., 2021). Many characteristics of Machiavellianism and psychopathy, such as higher levels of risk-taking, impulsivity, aggression, low anxiety, the desire to control others and reluctance to commit (Hare, 1985; Pechorro et al., 2020; Dahling et al., 2009; Brewer & Abell, 2017) match masculine behaviours and attitudes. On the other hand, narcissism with high self-interest, interest in one's own appearance and characterised by vanity (Hyatt et al., 2018) signals feminine characteristics, thus the composite with low levels of narcissism was preferred. This interpretation may be supported by a study by Lyons et al. (2015), in which an assessment of attractiveness revealed a close link between masculinity and psychopathy. It may also be indirectly supported by studies that have shown a close correlation between Dark Triad characteristics and masculine tendencies, such as high-risk behaviours (Maneiro et al., 2020), a higher degree of independent self-construal (Jonason et al., 2017) or a tendency to “stand out” rather than to “fit in” (Jonason et al. 2020).

If we look at the specificities of the assessment of the attractiveness of Dark Triad characteristics in the male facial composite from the perspective of gender, it is clear that men

evaluate the presence of narcissistic features less negatively than women – although there was a tendency to consider a highly narcissistic face to be unattractive, this choice was not found to be statistically significant. Women perceived masculine features (i.e., high Machiavellianism, high psychopathy, and low narcissism) in the male facial composite as highly attractive. The assumption, formulated in the introduction of the paper, stated that women will consider the presence of characteristics that are high risk, for a relationship, to be a threat and consequently assess them negatively, however this was not confirmed. These results may be interpreted in the light of two popular, yet opposing, female mating strategies that influence the assessment of the attractiveness of male facial composites. In the first, women subconsciously choose a partner to help them raise children and secure the family (the “good father” prototype). This type of individual is characterised by feminine facial features that signalise agreeableness, warmth, faithfulness, a willingness to help, etc. (Geniole et al., 2012). In the second strategy, they look for a “donor of good genes”, that being a partner that will provide offspring with a greater chance of survival – through typical masculine characteristics such as dominance, aggression and fertility (Haselton & Miller, 2006; Pawlowski & Jasienska, 2005). Women switch between these two strategies depending on their circumstances – they prefer feminine individuals (or long-term relationships) in the infertile stages of their menstrual cycle or ontogenesis, and masculine types (or short-term relationship) in the part of their cycle when they are most fertile (Gangestad et al., 2007; Selecka, 2016). These preferences are subsequently reflected in the assessment of the attractiveness of masculine and feminine features in male facial composites. By way of an analogy, we could argue that the women in our study sample mainly assessed male faces with features of the Dark Triad from the perspective of biological attractiveness (“donor of good genes”), thus they were more attracted to masculine features.

The assessment of Dark Triad features in female facial composites by the assessors (both male and female) was considerably more diffused – a statistically significant preference was only present for features of Machiavellianism (in terms of psychopathic and narcissistic features, the subjects did not evidence any homogeneous preferences). It is possible that the attractiveness of female Machiavellianism lies in the fact that the tendency to manipulate others, to mislead men or to gain greater benefits (as typical features of Machiavellianism – Christie & Geis, 1970) is generally associated with the “women’s strategy” used to gain an advantage (using the so-called “women’s wiles”), which is widely accepted and tolerated by society. Machiavellian women generally have fewer opportunities to use more aggressive tactics (e.g., physical violence) therefore they employ more delicate, softer tactics (friendliness, charm, or flattery) (Ináncsi et al., 2015). Men may even feel flattered that women are investing energy into convincing them, even through manipulation, while women may see this characteristic as desirable “know-how” used to gain an advantage.

The separate analysis of the results of the attractiveness of Dark Triad features in female facial composites for male and female assessors shows a difference in the assessment of the attractiveness of psychopathy – while no clear preference for high or low levels was found in men, women statistically significantly more frequently chose faces with low levels of psychopathy. Psychopathy is often referred to as the most dangerous characteristic of the Dark Triad and it is associated with the highest risks. Even though there are certain benefits considering men (as potential mating partners) who display this behaviour (dominant, aggressive or even ruthless behaviour is associated with evolutionary advantage), which may outweigh the disadvantages, when it is assessed in women, by women (same sex assessor), only the risks remain. The proximity of a person with psychopathic traits represents a threat, thus it may provoke aversion in the assessment of their attractiveness.

It appears that the assessment of the attractiveness of Dark Triad features of both male and female facial composites is also influenced by mating interactions. These depend on other factors, which highlights the limits of this study and presents a potential subject for future research. The analyses conducted in this study do not take into consideration whether the assessors are looking for a long-term or short-term relationship, whether they are already in a relationship or how promising it is for them. In the case of women, the study did not obtain information on the stage of their menstrual cycles or reproductive potential, all of which may influence mating strategy along with their preferences in a potential partner. We assume that the sexual orientation of the assessors may also be reflected in their assessment of attractiveness. Further research could investigate the relationship between the ability to detect Machiavellianism, narcissism, and psychopathy in facial features and the subsequent assessment of their attractiveness. Last but not least, it should be pointed out that although facial composites allow us to control the key variables which may influence the assessment of attractiveness under natural conditions, it does not constitute an assessment of a real human face. The true reactions of subjects and the assessment of the attractiveness of certain facial features under real conditions may differ.

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