Dark traits: Sometimes hot, and sometimes not? Female preferences for Dark Triad faces depend on sociosexuality and contraceptive use

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ABSTRACT

Although the Dark Triad personality (i.e., Machiavellianism, narcissism, and psychopathy) has been researched widely, only few studies have investigated women's preferences for men who present high and low Dark Triad features. With an on-line two-alternative forced choice questionnaire we investigated the interaction between preferences of 1962 Finnish women for facial stimuli that differed in the intensity of the Dark Triad traits, accounting for mating context, contraceptive use, and sexual openness (sociosexuality). Among non-contraceptive-using women, unrestricted sociosexuality was positively correlated with preference for high narcissistic male faces, whereas in contraceptive-using women, sociosexuality correlated negatively with preference for high Machiavellian male faces. We suggest that i) facial cues to Dark Triad traits are detectable by women, but ii) their effect on the judgments of attractiveness may vary depending on sociosexuality and contraceptive use, and that iii) preference for narcissism follows similar variation trends as masculinity preference, depending on sociosexuality and the use of hormonal contraception.

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1. Introduction

The Dark Triad personality (i.e. Machiavellianism, narcissism and psychopathy) is a set of three conceptually distinct but empirically overlapping traits (Paulhus & Williams, 2002), sharing features such as callousness and inter-personal manipulation (Furnham, Richards, & Paulhus, 2013). The Dark Triad has been suggested to be a male-typical adaptation for pursuing a short-term mating strategy (Jonason, Li, Webster, & Schmitt, 2009). Three traits of Dark Triad are to certain extent similar to masculinity, as both are related to self-reported short-term mating success and status-seeking behaviours (Jonason et al., 2009; Peters, Simmons, & Rhodes, 2008; Semenyna & Honey, 2015). The relationship between the Dark Triad and masculinity is not entirely clear, but it appears that at least Machiavellianism and psychopathy are not directly related to masculinity. In a recent study, Lyons, Marcinkowska, Helle, and McGrath (2015) found that preference for high masculine features in male faces was not associated with a preference for psychopathy or Machiavellian faces. It appears that although men who are high on the Dark Triad or masculinity scale pursue similar mating strategies, masculinity and the Dark Triad may be quite different to each other in terms of female choice (Lyons et al., 2015).

It has been suggested that women are attracted to the "bad boy" characteristics embodied by the Dark Triad constellation (Jonason, Webster, Schmitt, Li, & Crysel, 2012), which could be associated with both direct (e.g., resources) and indirect (e.g., offspring genetic fitness) benefits. Women may pursue flexible mating strategies; where in the short-term relationships, good genes indicators play a more important role than parental care and resource provision, which, in turn, may be more important in long-term relationships (Pillsworth & Haselton, 2006). We would expect women to prefer high Dark Triad males especially in short-term relationships for genetic benefits, as men high in these traits may be less reliable as long-term partners (Jonason et al., 2009).

Currently there is very little research on the Dark Triad and indicators of good genes. Jonason, Baughman, Carter, and Parker (2015) found in a large sample of American, Australian, and British participants that narcissism was associated with positive, and Machiavellianism and psychopathy with negative health outcomes. Mating with a healthy partner confers a number of fitness benefits, and individuals may be seeking for phenotypic indicators of health when choosing a partner (Nedelec & Beaver, 2014). Thus, we expect that narcissism, rather than psychopathy and Machiavellianism, is more desirable for women oriented towards short-term mating.

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Interestingly, although men who are high on the Dark Triad scale self-report having a large number of mating partners (e.g., Jonason et al., 2009), the evidence regarding women's choice for high Dark Triad traits is conflicting. Studies utilising dating adverts have found that women rate high Dark Triad adverts as desirable partners (Carter, Campbell, & Muncer, 2014), especially during the fertile phase of the cycle (Aitken, Lyons, & Jonason, 2013). This suggests that these traits may have evolved through female choice for manipulative short-term partners (although see also Haslam & Montrose, 2015). However, research using facial morphs rather than verbal descriptions has found that women dislike computer-manipulated high Dark Triad faces in both short and long-term relationships (Lyons et al., 2015). Women's preference for male facial characteristics is affected by individual differences, such as hormonal status (Burriss, Marcinkowska, & Lyons, 2014) and sociosexuality (SOI; Provost, Kormos, Kosakoski, & Vernon, 2006), which could play a role in the preference for Dark Triad faces as well. In the present study, we investigated how contraceptive use and sociosexuality (i.e., sexual openness) relate to female choice for high and low Dark Triad computer-manipulated facial morphs.

Mating strategy and preferences are strongly entangled with individual's propensity or willingness to enter sexual relations without emotional engagement — sociosexuality (Schmitt, 2005, see also review in Simpson, Wilson, & Winterheld, 2004). Sexually unrestricted women prefer more masculine male faces (Provost et al., 2006; Waynforth, Delwadia, & Camm, 2005). As facial masculinity is an honest signal of health (Thornhill & Gangestad, 2006, however see Scott, Clark, Boothroyd, & Penton-Voak, 2013), higher preference for masculinity of women with more pronounced short-term mating interest could be linked to enhanced sensitivity to indicators of good genes. Thus, if the Dark Triad traits (especially narcissism) are signalling genetic benefits, we would expect preference for these features to correlate positively with sexual openness, particularly when evaluating faces as short-term partners.

Aside from sociosexuality, we expected that usage of oral contraceptives would alter the preferences for different face types. Hormonal contraceptives suppress pre-ovulatory shifts towards traits that signal genetic quality (Jones et al., 2005; Penton-Voak et al., 1999). Contraceptive users show a higher preference for characteristics such as intelligence and wealth (Gangestad, Garver-Apgar, Simpson, & Cousins, 2007), and lowered preference for masculinity (Feinberg, DeBruine, Jones, & Little, 2008; Little, Burriss, Petrie, Jones, & Roberts, 2013). Usage of oral contraceptives may enhance preferences for features beneficial in long-term relationships, such as visual cues to cooperation rather than genetic quality (Alvergne & Lummaa, 2010; Moore et al., 2013). Therefore, we expected that for women who are not using hormonal contraceptives preferences for high Dark Triad traits are higher than for contraceptive-users.

In summary, in the present study we aimed to add to the existing literature by investigating the role of sociosexuality and contraceptive use in women's preference for male Dark Triad facial features. Following previous findings from masculinity preference research, we expected to find that less restricted sexuality would be related to stronger preference for high Dark Triad males, but only in short-term relationships, and only among women, who do not use hormonal contraception.

2. Materials and methods

2.1. Participants

An on-line study was advertised in a Finnish newspaper, through e-mail adverts in several universities, and on research participation websites. After excluding participants who completed less than 50% of the two alternative forced-choice (2-AFC) preference trials ($n = 9$), non-heterosexual women ($n = 72$), women who stated that provided definition of long and short-term relationships was

not clear ($n = 132$), women who were post-menopausal ($n = 217$), pregnant ($n = 217$), lactating ($n = 217$), and women who were not from Finland ($n = 438$), we were left with a sample of 1962 participants (mean age $= 35.25$, $SD = 10.58$, 1268 (64.6%) non-contraceptive users). Due to cross-cultural variation in female preference for masculinity (e.g., Moore et al., 2013), we only included participants residing in Finland.

2.2. Stimuli

We used six random male base pictures from a previous study (Rantala et al., 2012) to create facial morphs high and low in the Dark Triad features (Lyons et al., 2015). High and low versions of each base face were created by adding the similarity to a composite face high or low in each Dark Triad feature in Psychomorph Programme (Tiddeman, Burt, & Perrett, 2001). Composite faces (averages of many faces) were taken from "faceaurus", created in a previous study of Holtzman (2011), http://www.nickholtzman.com/faceaurus.htm. Such high and low Dark Triad averages were created based on individuals who scored high or low on self-assessment Dark Triad questionnaires, and who were judged accordingly on these scales by their peers (Holtzman, 2011). We created six versions (high and low narcissistic, psychopathic and Machiavellian) of each of the six male base pictures (Fig. 1).

2.3. Procedure

Upon entering the survey, participants were asked for demographic information, including whether or not they are using hormonal contraceptives, and filled in the 9-item Sociosexual Orientation Inventory (SOI-R) (Penke & Asendorpf, 2008). Following this, participants were asked to choose between the high and low morphs in 2-AFC trials, presented in two blocks for long-term and short-term relationships in randomized order. Before each block participants read the description of short- or long-term mating context (See Little, Cohen, Jones, & Belsky, 2007), and answered a question whether the definition was clear for them. Each block consisted of 18 slides. On each slide high and low feature prototype faces were depicted side by side (six pairs for each of the Dark Triad trait) in a randomized order. Participants, via forced choice, picked a face that they found more attractive. Scores of preferences were computed by taking an average from 6 choices per feature, ranging from 0 – only low feature choices to 1 – only high feature choices.

2.4. Statistical method

Structural equation modelling (SEM) with multiple indicator variables (Green & Thompson, 2012) was used to estimate the influence of sociosexual orientation (SOI) and contraceptive use on Dark Triad traits preference simultaneously in short- and long-term mating contexts (see a priori model in Fig. 2). In order to examine whether SOI had differential influence on preference for Dark Triad traits depending on contraceptive-use, after grand-mean centering SOI, we also included their interaction into the model. Dark Triad traits were modelled as continuous outcomes. Because we included several response variables measured from the same participants and preferences from both short- and long-term mating contexts, we allowed for residual covariances among response variables (Fig. 2).

The fit of the a priori model to the observed data was examined using the chi-square test (χ^2) and the following fit-indices: the root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR), the comparative fit index (CFI) and the Tucker–Lewis index (TFI) (West, Taylor, & Wu, 2012). The major shortcoming of the χ^2 test is that it is an approximation and too powerful to detect trivial differences in cases of large sample size and high number of variables in the model, whereas all the fit-indices used here