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ORIGINAL PAPER

Beauty Goes Down to the Core: Attractiveness Biases Moral Character Attributions

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Abstract
Physical attractiveness is a heuristic that is often used as an indicator of desirable traits. In two studies ($N = 1254$), we tested whether facial attractiveness leads to a selective bias in attributing moral character—which is paramount in person perception—over non-moral traits. We argue that because people are motivated to assess socially important traits quickly, these may be the traits that are most strongly biased by physical attractiveness. In Study 1, we found that people attributed more moral traits to attractive than unattractive people, an effect that was stronger than the tendency to attribute positive non-moral traits to attractive (vs. unattractive) people. In Study 2, we conceptually replicated the findings while matching traits on perceived warmth. The findings suggest that the Beauty-is-Good stereotype particularly skews in favor of the attribution of moral traits. As such, physical attractiveness biases the perceptions of others even more fundamentally than previously understood.

Keywords Attractiveness · Moral character · Beauty-is-good stereotype · Person perception

Introduction

The age-old idiom "do not judge a book by its cover" warns us that forming quick impressions of others based on superficial features may lead us to make inaccurate judgments and a failure to see people's true character. Yet, research shows that humans are predisposed to forming social impressions of others rapidly and intuitively (Ambady, 2010; Ambady & Rosenthal, 1992; Ambady et al., 2000; Asch, 1946; Carney et al., 2007) and show great confidence in these judgments irrespective of their accuracy (Ames et al., 2010). Physical attractiveness (particularly facial attractiveness) is a particularly pervasive heuristic that is often used as an indicator of various desirable traits, a phenomenon known as the Beauty-is-Good stereotype (Dion et al., 1972).

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While beauty is only skin deep, we examined whether it may particularly influence the attribution of *moral* qualities, relative to traits that are less related to moral character. Drawing on the notion that people are especially sensitive to cues regarding socially important traits—those which have implications for the quality of downstream interactions (Goodwin et al., 2014)—we argue that in initial impression formation moral traits are the ones that are particularly likely to be impacted by heuristics such as the Beauty-is-Good stereotype.

The Beauty-is-Good Stereotype

In a seminal study, Dion and colleagues (1972) found that people attribute more socially desirable traits such as sincerity, altruism, or warmth to attractive compared to unattractive individuals, and judge them to have higher occupational status as well as better marital and parental competence. Meta-analyses found that attractive individuals were attributed greater social competence, sociability, dominance, sexual warmth, mental health, and intelligence than unattractive individuals (Eagly et al., 1991; Feingold, 1992). This Beauty-is-Good stereotype can have significant consequences for individuals within societies, in particular in domains related to judgments of their character. For example, attractive people are more likely to be hired or get promoted (Hosoda et al., 2003), attractive defendants are less likely to be found guilty and receive less severe punishment in simulated jury tasks (e.g., Efran, 1974), and people are more likely to vote for attractive political candidates (Efran & Patterson, 1974) than their unattractive counterparts. Furthermore, adults give attractive children more attention and caregiving than unattractive children (Langlois et al., 2000).

The Beauty-is-Good stereotype is typically explained in terms of a halo effect: a cognitive bias in which the positive evaluation of one trait positively influences the evaluation of unrelated traits (Forgas & Laham, 2016; Nisbett & Wilson, 1977; Thorndike, 1920). As such, attractiveness produces a 'radiating' effect that increases the extent to which people attribute other positive traits to attractive individuals. While research on the Beauty-is-Good stereotype suggests that the attractiveness of a target is likely to lead to a broad range of positive attributions, it may be that facial attractiveness leads to a selective bias in some types of traits over others (for review see: Forgas & Laham, 2016). Traits particularly impacted by the halo effect may be those which form part of the same cognitive associative network (Asch, 1946; Forgas & Laham, 2016). More specifically, individuals may naturally come to associate physical attractiveness with certain traits (e.g., popularity), as a function of how often these traits co-occur in daily life (e.g., Eagly et al., 1991). An additional possibility we put forward is that attractiveness especially biases judgments of traits that are central in person perception. As people are motivated to form fast impressions of traits that are socially important, these might be the ones that are most strongly impacted by the Beauty-is-Good stereotype.

Moral traits have been found to be central in person perception (Asch, 1946; Brambilla et al., in press; Goodwin et al., 2014; Wojciszke et al., 1998). While the two-dimensional model of social cognition proposes that warmth and competence are the fundamental dimensions of person perception with the warmth dimension encompassing moral traits (Fiske et al., 2007), more recent work has shown that the warmth dimension captures two distinct aspects: morality (information regarding one's virtues such as a person's kindness or trustworthiness) and social warmth/sociability (information regarding one's orientation to affiliate with and form connections with others such as a person's friendliness and

likeability; Brambilla et al., in press). Morality-related information has been found to play a greater role in global impression formation than both competence-related information (Wojciszke et al., 1998) and information pertaining to one's sociability (Brambilla et al., 2011) or warmth (Goodwin et al., 2014). Similarly, morality is more important to ingroup evaluations than competence or sociability (Leach et al., 2007) and people value trustworthiness—an important moral trait—in others regardless of tasks, goals, or functions of the relationship with them while they value other traits differentially across tasks, goals, or functions (Cottrell et al., 2007). It has been argued that moral character is of prime importance in impression formation because it is most relevant in determining whether another person is helpful or harmful to the self, and whether they are a reliable ally (Goodwin et al., 2014), or conversely a potential threat (Brambilla et al., in press).

Considering the pre-eminence of judgments of moral traits, in social interactions people are particularly motivated to assess others' moral character. However, in first impressions—if morally-relevant information is absent—people will rely on heuristics to determine other people's moral characters. Thus, we argue that—in the absence of other information—attractiveness will particularly bias these traits that are so central to global impression formation. Put simply, we predicted that attractiveness impacts judgments of moral traits more so than judgments of well-matched non-moral traits. No empirical work has directly tested whether the Beauty-is-Good stereotype differentially impacts moral compared to non-moral traits.

Beauty and Morality

There is a plethora of historical evidence for an association between physical appearance and moral character judgments (see Henderson, 2015). Many philosophers who believed that beauty and goodness are closely linked: Socrates regarded beauty as coincident with the good (Wilson, 2013, p. 20) and Kant argued that beauty is the 'symbol of morality' (Kant, 1790/2000, p. 225). Furthermore, 'beautiful' is colexified with 'good' in at a least 101 languages (Rzymski et al., 2020).

Modern empirical research on the Beauty-is-Good stereotype has often produced inconsistent findings with regard to whether physical attractiveness biases moral trait attributions. In one of the earliest meta-analytic studies of the Beauty-is-Good stereotype, Eagly et al. (1991) found only a small relationship between ratings of target integrity and physical attractiveness; and a meta-analysis by Feingold (1992) found that there was no significant effect of attractiveness on ratings of 'character'. However, subsequent empirical evidence has questioned these early meta-analyses. Notably, Wheeler and Kim (1997) found in a Korean sample that people attribute more integrity and concern for others to attractive compared to unattractive people. More recent studies have found that people attribute moral character traits—particularly, perceived trustworthiness—more strongly to attractive compared to unattractive individuals (Ma et al., 2015b; Wilson & Eckel, 2006; Zebrowitz & Franklin, 2014). For example, attractive people were rated as more trustworthy and were trusted at a higher rate in the first stage of a trust game than unattractive people (Wilson & Eckel, 2006). Furthermore, indirect evidence for a link between attractiveness and morality was provided by neuroimaging studies that have revealed overlapping neural regions implicated in facial attractiveness judgments and judgments of moral acts (e.g., "He rescued an abandoned dog"; Heinzelmann et al., 2020; Tsukiura & Cabeza, 2010). Behavioral and event-related potentials (ERP) data suggests that attractiveness specifically

influences moral character judgments (Cui et al., 2019). This is also consistent with recent research that found people attribute moral standing to attractive individuals (Klebl et al., in press). Critically, however, none of this previous work compared the relative strength of the impact of attractiveness (vs. unattractiveness) on moral trait judgments compared to judgments of non-moral traits.

The Present Research

We investigated whether the attractiveness of a target especially biases the attribution of moral traits relative to traits that are well-matched but less indicative of moral character. We argue that because moral traits are of prime importance in person perception (Brambilla et al., 2011, in press; Cottrell et al., 2007; Goodwin et al., 2014; Leach et al., 2007; Wojciszke et al., 1998), these traits will be most strongly impacted by the Beauty-is-Good stereotype. In Study 1, we examined whether people are more likely to attribute moral traits to an attractive (vs. unattractive) individual than positive non-moral traits. In Study 2, we conceptually replicated Study 1 but matched the moral and non-moral traits on perceived warmth which has been shown to be closely related to but independent from morality (Abele et al., 2016; Fiske et al., 2007; Goodwin et al., 2014). Furthermore, in contrast to previous studies that have used ad hoc measures of moral character (Eagly et al., 1991; Feingold, 1992), we used psychometrically validated moral character measures (Goodwin et al., 2014; Walker & Hennig, 2004).

Study 1

In Study 1, we investigated whether people attribute moral character more strongly to attractive (vs. unattractive) individuals, relative to positive non-moral traits. Specifically, we had participants rate faces that varied from attractive to unattractive on moral traits and positive non-moral traits. For this purpose, we used traits that differed in their prototypicality along three domains of moral exemplarity: just, brave, and caring (Walker & Hennig, 2004).

Method

Participants

We determined a sample of $N = 395$ would allow for an 80% chance of detecting a small effect size at $\alpha = 0.05$ (Faul et al., 2009). In order to secure sufficient power, we aimed to recruit 500 participants from Amazon's Mechanical Turk (MTurk) to complete a 2-min study in return for US$0.40.[1] Due to convenience, we limited our sample to participants living in the USA (the vast majority of English-speaking MTurk workers reside in the USA). The final sample comprised 504 participants (217 women, 286 men, 1 non-binary; $M_{age} = 38.9$, $SD_{age} = 11.7$, range = 20–73; 79.2% White, 10.7% Black, 6.2% Asian, 1.0%

[1] In all studies, sample size was determined before any data analysis.

Table 1 Moral traits and non-moral traits used in Studies 1 and 2. The traits for Study 1 were taken from Walker and Hennig (2004), and the traits for Study 2 were taken from Goodwin et al. (2014)

Study 1		Study 2					
Moral traits	Non-moral traits	Moral traits	$M_{Morality}$	$M_{Valence}$	Non-moral traits	$M_{Morality}$	$M_{Valence}$
Does listen to all sides	Is humorous	Honest	8.45	8.37	Calm	4.27	7.20
Is fair	Is organized	Trustworthy	8.03	8.36	Soft	4.04	5.14
Is courageous	Is stoic	Forgiving	7.71	7.87	Imaginative	3.58	7.21
Is heroic	Is defiant	Principled	7.65	7.59	Playful	3.25	7.06
Is sympathetic	Is strong	Selfless	7.39	7.98	Introverted	3.16	4.65
Is concerned about others	Is spiritual	Responsible	7.08	8.29	Funny	3.00	7.48

Native American, 0.2% Native Hawaiian or Pacific Islander, 2.7% other ethnicity; 70.0% college degree, 18.1% professional degree, 10.7% high school graduate, 1.0% doctorate, 0.2% less than high school).

Materials and Procedure

Participants were randomly presented with either six images of attractive faces or six images of unattractive faces.[2] All faces were selected from the Chicago Face Database (Ma et al., 2015a) and were neutral in their facial expressions. We selected the most attractive and unattractive faces of each gender (male and female) and ethnicity (Asian, Black, and White) based on attractiveness ratings provided by Ma et al. (2015a).[3] We excluded faces that had cues of disease such as sweatiness.

For each participant, the six images were presented twice: once with a moral trait and once with a non-moral trait. The traits were taken from Walker and Hennig (2004) who provided mean ratings of the prototypicality of various traits for three domains of moral exemplars: just, caring, and brave. Out of the 235 traits provided, we selected the two most highly prototypical moral traits from each of the three domains and six non-moral traits that had the lowest average prototypicality ratings across all moral domains (see Table 1). However, we excluded traits that were potentially perceived to be negative (e.g., "crazy"). Participants were asked to indicate on a slider (-100 = *much less likely*, 0 = *equally likely*, 100 = *much more likely*) how likely the depicted individual possesses the respective trait (e.g., Compared to an average person, how likely do you the think the depicted person is sympathetic?). The pairing of images and traits, as well as the order of presentation, was randomized.

[2] For all studies, we reported all measures, manipulations and exclusions.

[3] Attractive faces had been rated 4.90 and unattractive faces had been rated 1.77 on 7-point scales from 1 = *not at all attractive* to 7 = *extremely attractive*.

Results and Discussion

We excluded 60 participants from the analyses (28 of which were in the attractiveness condition and 32 of which were in the unattractiveness condition).[4] Fifty-seven participants failed the attention check and three participants did not consent to their data being used. Furthermore, we excluded ratings of Asian female faces from the analysis due to presentation errors in the survey.[5] Linear mixed-effects models were used in all analyses (R package *lme4*; Bates et al., 2015). Participants and stimuli were included as random intercepts.

The statistical information is presented in Table 2.[6] There was a significant main effect of attractiveness such that attractive faces were attributed (moral and non-moral) traits more strongly than unattractive faces. There was also a main effect of traits, such that non-moral traits were attributed more strongly to individuals than moral traits. As hypothesized, we found a significant interaction between attractiveness and traits. The significant interaction shows that the difference between attractive and unattractive faces was stronger for moral traits than for non-moral traits (see Fig. 1). We also conducted simple slope analyses testing at each level of traits (0 = non-moral, 1 = moral) whether attractiveness (0 = unattractive, 1 = attractive) predicts trait attributions. Both sets of simple slopes were significant: Participants attributed non-moral traits more strongly to attractive compared to unattractive faces ($R^2 = 0.02$) and they also attributed moral traits more strongly to attractive compared to unattractive faces ($R^2 = 0.07$). Finally, we conducted simple slope analyses testing at each level of attractiveness whether trait type predicts trait attributions. Participants attributed non-moral traits significantly more strongly to unattractive faces than moral traits ($R^2 = 0.02$). However, there was no significant difference in the attribution of moral and non-moral traits to attractive faces.

To summarize, we found that people attribute positive traits to a greater degree to attractive compared to unattractive faces. Additionally, we found that this effect was significantly stronger for moral traits than positive non-moral traits. This suggests that facial attractiveness is implicated in a selective bias toward the attribution of moral traits over positively valenced non-moral traits. More generally, this result suggests that the Beauty-is-Good stereotype particularly skews in favor of the attribution of socially important traits. In this sample, we found that this effect was due to differences between the attribution of moral and non-moral traits to unattractive people.

Study 2

In Study 1, we found that moral trait attributions are particularly impacted by the Beauty-is-Good stereotype over non-moral trait attributions. In order to show that the effect is not due to idiosyncratic characteristics of the selected traits, we aimed to replicate the findings of Study 1 using a different set of traits. Furthermore, although we selected positive moral and positive non-moral traits in Study 1, there is the possibility that the effect is due to differences in the traits' warmth rather than due to differences in morality per se (cf. Abele

[4] Additional analyses revealed that excluding participants had no substantive impact on the results.

[5] In the attractiveness condition, two different attractive faces were presented, and in the unattractiveness condition, one of the presented faces was attractive. Excluding ratings of Asian female faces had no substantive impact on the results.

[6] The unstandardized coefficients are presented in Table S1.

Table 2 Linear mixed-effects model with attractiveness (0 = unattractive, 1 = attractive), morality (0 = non-moral, 1 = moral) and attractiveness x morality as fixed factors for Study 1 ($N = 444$) and Study 2 ($N = 651$)

	Variable	Attractive			Unattractive			Fixed effects						
		M	*SD*	*N*	*M*	*SD*	*N*		*b*	*SE*	*t*	*df*	*p*	R^2
Study 1	Moral	15.58	24.15	224	− 6.02	26.39	220	Attractiveness	0.14	0.03	5.24	817	< .001	.04
	Non-moral	15.11	19.81	224	3.52	22.66	220	Morality	− 0.11	0.02	− 5.84	3990	< .001	(.20)
								Interaction	0.10	0.02	4.36	3990	< .001	
			Simple slope of morality for attractive faces						0.006	0.02	0.30	2011	.763	< .01
			Simple slope of morality for unattractive faces						− 0.11	0.02	− 5.78	1975	< .001	.02
			Simple slope of attractiveness for moral traits						0.26	0.03	9.00	442	< .001	.07
			Simple slope of attractiveness for non-moral traits						0.13	0.02	5.74	442	< .001	.02
Study 2	Moral	20.27	23.32	332	1.78	26.50	319	Attractiveness	0.12	0.02	4.77	1008	< .001	.03
	Non-moral	9.51	24.43	332	-0.68	23.97	319	Morality	0.03	0.01	1.99	7154	.047	(.24)
								Interaction	0.08	0.02	4.77	7154	< .001	
			Simple slope of morality for attractive faces						0.13	0.01	9.26	3646	< .001	.02
			Simple slope of morality for unattractive faces						0.03	0.01	1.92	3503	.055	< .01
			Simple slope of attractiveness for moral traits						0.22	0.02	9.46	645	< .001	.05
			Simple slope of attractiveness for non-moral traits						0.11	0.02	5.37	645	< .001	.01

Standardized regression coefficients are displayed. R^2 values reported without brackets are the marginal R^2 values, that is, the variance explained by the fixed effect(s). The R^2 values displayed in brackets are the conditional R^2 values, that is, the variance explained by the entire model

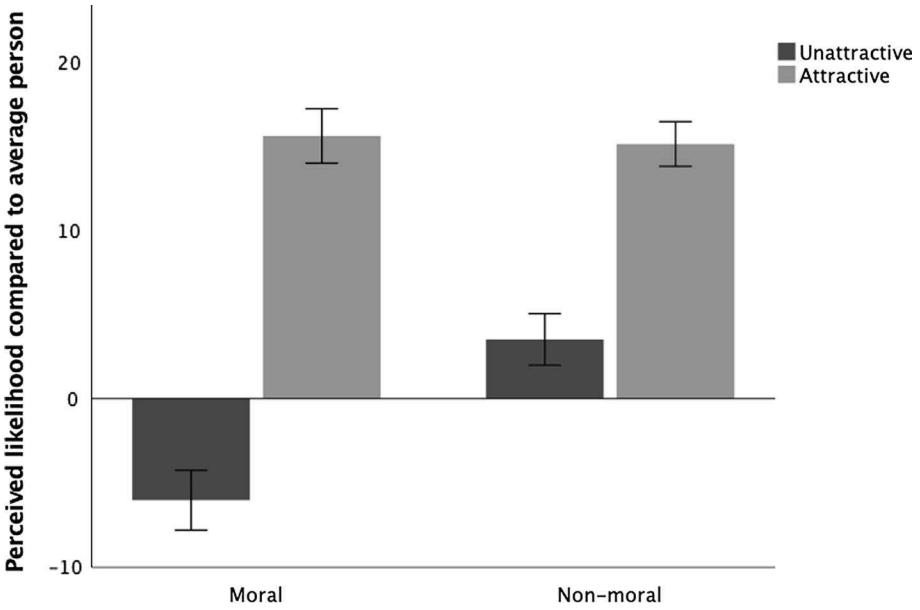

Fig. 1 Linear mixed-effects model with attractiveness (unattractive vs. attractive) and traits (moral vs. non-moral) as the predictors; and mean trait attributions as the dependent variable (Study 1; $N = 444$). *Note* Error bars represent standard errors.

et al., 2016; Fiske et al., 2007; Goodwin et al., 2014). Therefore, in Study 2, we matched moral and non-moral traits on perceived warmth.

Method

Participants

Because we expected that matching traits would reduce effect sizes, we increased the sample size by 50% in comparison to the sample size of Study 1. We recruited 750 participants living in the USA from MTurk to complete a 2-min study in return for US$0.40. The final sample comprised 756 participants (303 women, 453 men; $M_{age} = 39.5$, $SD_{age} = 12.2$, range = 17–78; 81.3% White, 9.7% Black, 6.6% Asian, 0.8% Native American, 0.1% Native Hawaiian or Pacific Islander, 1.5% other ethnicity; 70.5% college degree, 17.6% professional degree, 9.9% high school graduate, 1.6% doctorate, 0.4% less than high school).

Materials and Procedure

The procedure was identical to Study 1. We again used six images of attractive faces and six images of unattractive faces matched in gender and ethnicity (Ma, et al., 2015a, 2015b). However, we selected traits from Goodwin and colleagues (2014; see Table 1). Based on norming data that assessed the traits' usefulness for judging a person's morality or warmth on a 9-point scale (1 = *Not at all useful*, 5 = *Moderately useful*, 9 = *Extremely useful*), we

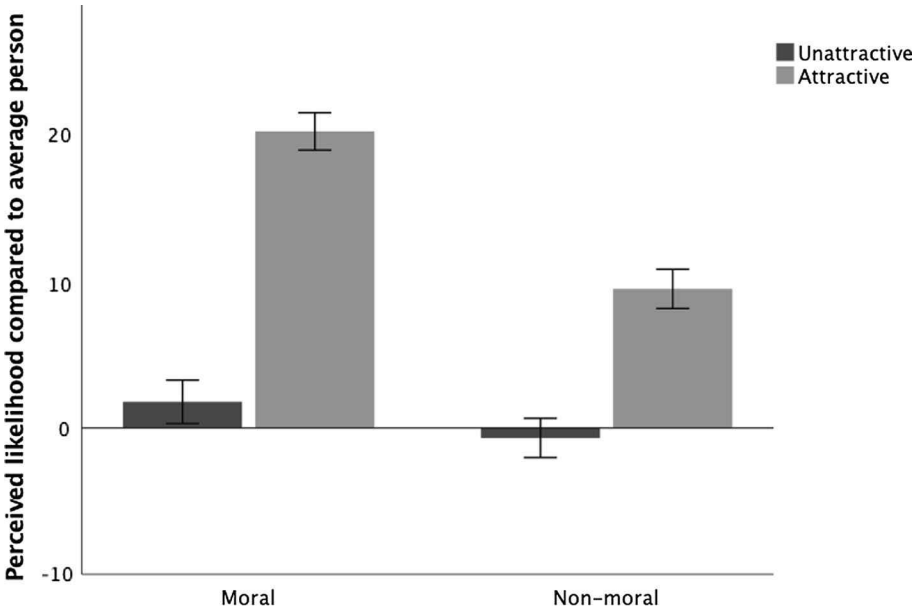

Fig. 2 Linear mixed-effects model with attractiveness (unattractive vs. attractive) and traits (moral vs. non-moral) as the predictors; and mean trait attributions as the dependent variable (Study 2; $N = 651$). *Note* Error bars represent standard errors.

selected traits that were high ($M = 7.72$) vs. low ($M = 3.55$) in their usefulness for judging a person's morality but matched in their usefulness for judging a person's warmth ($M_{moral} = 6.09$; $M_{non\text{-}moral} = 6.03$). The mean valence of moral traits was 8.08 and the mean valence of non-moral traits was 6.46 (measured on a 9-point scale; see Table 1).

Results and Discussion

We excluded 105 participants from the analyses (49 of which were in the attractiveness condition and 56 of which were in the unattractiveness condition).[7] Ninety participants failed the attention check, and fifteen participants did not consent to their data being used. Linear mixed-effects models with participants and stimuli at random intercepts were used in all analyses with participants and stimuli included as random intercepts.

The statistical information is presented in Table 2. There was a significant main effect of attractiveness such that (moral and non-moral) traits were attributed to a greater extent to attractive than to unattractive faces. There was also a significant main effect of morality, such that moral traits were attributed more strongly to faces than non-moral traits. As hypothesized, we found a significant interaction between attractiveness and traits. The significant interaction shows that the difference between the attribution of traits to attractive and unattractive faces was stronger for moral traits than for non-moral traits (see Fig. 2).

[7] Additional analyses revealed that excluding participants had no substantive impact on the results.

We also conducted simple slope analyses testing at each level of traits (0 = non-moral, 1 = moral) whether attractiveness (0 = unattractive, 1 = attractive) predicts trait attributions. Participants attributed non-moral traits more strongly to attractive compared to unattractive faces ($R^2 = 0.01$) and they attributed moral traits more strongly to attractive compared to unattractive faces ($R^2 = 0.05$). Finally, we conducted simple slope analyses testing at each level of attractiveness whether trait type predicts trait attributions. Participants attributed moral traits significantly more strongly to attractive faces than non-moral traits ($R^2 = 0.02$). However, there was no significant difference in the attribution of moral and non-moral traits to unattractive faces.

In summary, as in Study 1, people attributed positive traits to a greater extent to attractive compared to unattractive faces. We also found a stronger effect for moral traits than for non-moral traits that were matched in perceived warmth. This provides further evidence that facial attractiveness leads to a selective bias in the attribution of moral traits over non-moral traits and suggests that this bias cannot be explained by differences in the traits' warmth. In contrast to Study 1a, in this sample, the effect was due to the difference between the attribution of moral and non-moral traits to attractive (but not unattractive) individuals.

General Discussion

The present studies supported our hypothesis that facial attractiveness most strongly biases the attribution of moral traits relative to non-moral traits. This suggests that moral character is particularly impacted by the Beauty-is-Good stereotype over other trait attributions. As in past research, our studies found that people attributed more positive traits to attractive compared to unattractive individuals. As predicted, however, this effect was greater for moral traits than for non-moral traits. In Study 1, we contrasted moral traits from three domains of moral exemplars (*just*, *brave* and *caring*) with positive non-moral traits (Walker & Hennig, 2004). We found that people (living in the USA) attributed moral traits to a greater extent to attractive (vs. unattractive) individuals than positive non-moral traits. In Study 2, we replicated this finding using another set of traits (Goodwin et al., 2014) while matching the moral and non-moral traits on perceived warmth. As such, the stronger attribution of moral (vs. non-moral) traits to attractive (vs. unattractive) individuals could not be explained by differences in traits' warmth.

The present investigation advances the Beauty-is-Good stereotype literature. Our findings are consistent with extensive research showing that people attribute positive traits more strongly to attractive compared to unattractive individuals (Dion et al., 1972). Most significantly, the present studies add to the previous literature by providing evidence that attractiveness does not bias the attribution of positive traits uniformly. Attractiveness especially biases the attribution of moral traits compared to positive non-moral traits, constituting an update to the Beauty-is-Good stereotype. One possible explanation for this selective bias is that because people are particularly motivated to assess socially important traits—traits that help us quickly decide who our allies are (Goodwin et al., 2014)—physical attractiveness selectively biases the attribution of those traits over socially less important traits. While in many instances, this may allow us to assess moral character quickly and accurately (cf. Ambady et al., 2000) and thus obtain valuable information about whether the target is a threat or ally, where morally relevant information is absent (such as during initial impression formation) this motivation to assess moral character may lead to an over-reliance on heuristic cues. This may make moral character assessments more susceptible to

biases such as the Beauty-is-Good stereotype. An alternative explanation for this selective bias is that the Beauty-is-Good stereotype may affect more strongly traits that are more positively valenced (moral traits) compared to traits that are less positively valenced (non-moral traits). Indeed, in Study 2, we found that moral traits were, on average, rated more positively than non-moral traits. However, we note that a valance-based explanation is not inconsistent with the aforementioned account based on stronger motivations to assess socially-important traits, as such traits are also likely more positively valenced. Moreover, while the Beauty-is-Good stereotype has been found to affect attributions of a range of positively valenced traits, there is no evidence (to the best of our knowledge) suggesting that the effect is moderated by the degree of the traits' positive valence.

In both studies, the magnitude of the effect of attractiveness on moral trait attributions was medium, while the magnitude of the average effect sizes of attractiveness on non-moral trait attributions was small. The findings are inconsistent with earlier work that found only a weak or no link between attractiveness and moral character attributions (Eagly et al., 1991; Feingold, 1992). Importantly, while the Eagly et al. (1991) and Feingold (1992) meta-analyses drew on studies that used ad hoc measures of moral character, we used psychometrically validated moral character measures (Goodwin et al., 2014; Walker & Hennig, 2004). Moreover, our findings are consistent with a series of subsequent studies that have found that people attribute moral traits more strongly to attractive than unattractive people (e.g., Ma et al., 2015b; Wilson & Eckel, 2006; Zebrowitz & Franklin, 2014). For example, Wheeler and Kim (1997) found a medium effect of attractiveness on moral character attributions.

We note that the small to medium effect sizes found in the present studies were also of somewhat smaller magnitude than the effects of attractiveness on trait attributions reported in previous meta-analyses, with medium mean effect sizes reported by Eagly et al. (1991), and small to large effect sizes reported by Feingold (1992). A possible explanation for the discrepancy is the use of online experiments (rather than lab experiments) in the current studies, and the selection of stimuli (e.g., the difference in attractiveness between the attractive and unattractive faces may have been smaller in the current studies[8]).

The present investigation provides concrete empirical evidence for ideas expounded in past work, hinting at a link between attractiveness judgments and morality. For example, neuroimaging studies revealed that shared brain areas are activated for attractiveness judgments and moral judgments (Tsukiura & Cabeza, 2010), and electrophysiological evidence linked attractiveness judgments to moral character attributions (Cui et al., 2019). It is also consistent with psychological research suggesting that people assign moral standing to attractive individuals (Klebl et al., in press), as well as with a plethora of historical evidence (Henderson, 2015) and philosophical theorizing (e.g., Kant or Socrates). Here, we provide for the first time evidence that attractiveness and morality are not simply linked with each other; attractiveness is more strongly linked with morality judgments than other types of character judgments. The particularly strong link we have discovered between attractiveness and morality is at odds with folk psychological beliefs about moral character. While attractiveness is typically believed to be a superficial quality—"beauty is skin deep"—moral character is perceived to be fundamental to one's identity, a uniquely human quality and invariant across social contexts (Goodwin et al., 2014).

[8] The norming data (Ma et al., 2015a) assessed attractiveness on a scale ranging from *not at all attractive* to *extremely attractive*, making it difficult to determine the degree of unattractiveness of the unattractive faces.

Finally, the present studies may contribute to a better understanding of why the social advantages enjoyed by attractive people are so pervasive. The fact that the physical attractiveness of a target biases the attribution of moral character particularly strongly may help to understand why there is a bias in favor of attractive individuals even in situations in which there is a strong incentive not to be biased such as jury decisions (Efran, 1974) or voting for political candidates (Efran & Patterson, 1974).

Limitations and Future Directions

We suggested that because people are particularly motivated to assess socially important traits when forming first impressions, those evaluations are most susceptible to heuristics like the Beauty-is-Good stereotype. Therefore, the selective bias of facial attractiveness on the attribution of moral character may be limited to first impressions in which only limited information about the target is available. Because people are acutely attuned to socially important cues, there is even the possibility that when more information or evidence to the contrary becomes available, the selective bias reverses such that attractiveness has less influence on moral trait attributions relative to the attribution of traits that are less related to moral character.

In our investigation, we contrasted moral traits with non-moral traits. However, although morality is of prime importance in person perception, moral traits are not the only traits that are socially important (Goodwin et al., 2014; Wojciszke et al., 1998). Future research is needed to determine whether also among non-moral traits, the traits' degree of importance for person perception predicts the extent to which they are attributed to attractive compared to unattractive individuals. Future research should also identify mediators of the selective bias of attractiveness on moral traits attributions. For example, mere liking of a judged person has been found to be integral to moral character attributions (Bocian et al., 2018). Furthermore, our findings were inconsistent with regard to the directionality of the observed effect. While Study 1a suggested that the effect was largely due to individuals' unattractiveness, in Study 1b, we found it was due to individuals' attractiveness. Further research is needed to reveal whether attractiveness *increases* or unattractiveness *decreases* the attribution of moral (vs. non-moral) traits.

In the present investigation, we recruited participants living in the USA. While the Beauty-is-Good stereotype has been found to generalize to non-Western populations such as Chinese (Ma et al., 2015b), Korean (Wheeler & Kim, 1997), Indian (Shahani-Denning et al., 2010), or Jamaican (Jacobson et al., 2020) individuals, it is unclear whether the selective bias of attractiveness on attributions of moral traits (relative to non-moral traits) generalizes to non-American populations and if so, whether the effect varies as a function of culture. For example, Wheeler and Kim (1997) found a stronger effect of attractiveness on moral trait attributions (integrity and concern for others) in a Korean sample compared to similar studies conducted in North America (Eagly et al., 1991; Feingold, 1992), possibly due to a greater tendency to stress harmonious relationships in collective cultures. This hints at the possibility that the selective bias of attractiveness on moral (vs. non-moral) traits is stronger in collectivistic cultures. In addition, there might be other socio-cultural factors influencing the effect, which requires further investigation.

Finally, future research should investigate to what extent the findings generalize to real-world contexts. Given that the effect sizes for moral traits found in the present studies were similar to those found in the Beauty-is-Good stereotype literature (e.g., Eagly et al., 1991;

Feingold, 1992), we expect our findings have real-world implications. For example, unattractive defendants may be more likely convicted and receive more severe sentences than attractive defendants because they are perceived as less moral (rather than because they are perceived as less sociable or competent; cf. Efran, 1974). Moreover, despite the pervasive disadvantages unattractive individuals face, to our knowledge, there is no intervention available that may reduce prejudice toward or discrimination against unattractive individuals. Future research should develop psychological or social interventions that may help to counteract our bias to utilize information about others' attractiveness in moral character evaluation and as a result, reduce prejudice and discrimination (cf. Paluck & Green, 2009).

Conclusion

In the present paper, we found that facial attractiveness selectively biased the attribution of moral traits compared to non-moral traits. The present research contributes to a better understanding of the mechanisms underlying the Beauty-is-Good stereotype and sheds light on why the social advantages attractive people experience are so pervasive. While beauty is only skin deep, it can go down to the core, affecting our perception of others' fundamental human qualities.

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Authors' contributions CK developed the study concept. All authors contributed to the study design. Data collection were performed by CK with the help from YL. CK performed the data analysis and interpretation under the supervision of BB. CK drafted the manuscript, and JR, KG, YL, and BB provided critical revisions. All authors approved the final version of the manuscript for submission.

Availability of Data and Material The data and materials of all studies are available at https://osf.io/bp2hc. We confirm that all measures, conditions, data exclusions and methods of determining sample sizes were reported.

Code Availability Not applicable.

Declarations

Ethics approval This research has been approved by the Human Ethics Research Committee (HREC 1955975.1) at the University of Melbourne and conforms with the Declaration of Helsinki.

Consent to Participate Informed consent was obtained from all individual participants included in the study.

Consent for Publication Consent was obtained from all individual participants included in the study.

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