



The mere liking effect: Attitudinal influences on attributions of moral character

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ABSTRACT

People believe that their moral judgments are well-justified and as objective as scientific facts. Still, dual-process models of judgment provide strong theoretical reasons to expect that in reality moral judgments are substantially influenced by highly subjective factors such as attitudes. In four experiments ($N = 645$) we provide evidence that similarity-dissimilarity of beliefs, mere exposure, and facial mimicry influence judgments of moral character measured in various ways. These influences are mediated by changes in liking of the judged persons, suggesting that attitudinal influences lay at the core of moral character perceptions. Changes in mood do not play such a role. This is the first line of studies showing that attitudes influence moral judgments in addition to frequently studied discrete emotions. It is also the first research evidencing the affective influences on judgments of moral character.

Moral experiences and judgments are surprisingly frequent, as uncovered in a large sample of adults studied with ecological momentary assessments (Hofmann, Wisneski, Brandt, & Skitka, 2014). Out of 13 thousand assessed events, 29% involved acts interpreted in moral terms, with participants involved in the acts either as agents or targets, witnessing them in person, or learning about them from others. Moral judgments and impressions are therefore of critical importance. In everyday situations, they heavily influence interpersonal attitudes, thereby determining whom to approach and whom to avoid (Wojciszke, Abele, & Baryla, 2009). In extreme situations they can decide about life or death – convicted murderers perceived as untrustworthy based on their facial appearance are more frequently sentenced to death, whereas those perceived as trustworthy receive a lesser sentence of imprisonment (Wilson & Rule, 2015).

Given such serious consequences of moral judgments, it is no wonder that people perceive their own judgments, especially negative ones, as objective and more socially shared than is really the case (Goodwin & Darley, 2012). Participants in one study assessed the objectivity of moral judgments (e.g. “Cheating on a knowledge section of a lifeguard exam, to obtain a job for which one is not qualified is morally wrong”) as equally high as that of factual statements (“Mars is the smallest planet of the solar system”). Both these assessments were much

higher than those concerning judgements of tastes (“Classical music is better than rock music”) or conventions (“Wearing pajamas and bath robe to a seminar is wrong behavior”) (Goodwin & Darley, 2008). There are probably two reasons for this belief in the objectivity of one's own moral judgments. Due to this belief, good or bad are experienced as objective characteristics of the judged persons or phenomena, not as a perceiver's own responses (Skitka, 2014). This is conducive for subjectively justified and strongly motivated actions, such as political activism (Skitka, Hanson, & Wisneski, 2016). The second reason has to do with avoiding moral dissonance. Many people believe that relying on logic and facts when forming and evaluating beliefs is a moral virtue, while relying on less rational processes is a moral vice (Stahl, Zaal, & Skitka, 2016). Therefore, they are motivated to rely on rational premises of their judgments or at least to believe that the premises they use are objectively true. However, despite the widespread belief in the objective nature of own moral judgments, the dual-process account of judgments suggests that this belief is mistaken. We present four experiments showing “the mere liking effect” – that moral judgments are influenced by interpersonal attitudes, an exemplary case of subjective preferences.

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1. Dual-process account of moral judgment

The main debate on the nature of moral judgment has centred around the relative importance of reason versus intuitions, and in particular affect (Haidt, 2001). According to the *rationalist tradition*, moral judgment relies on reasoning postulated to be context-independent and to involve several steps in conscious, language-based thinking. In effect, forming a moral judgment is the process of uncovering a moral truth in a deliberate way. In contrast, according to the *intuitionist approach* (Haidt, 2001), moral judgments resemble instant perceptions rather than deliberate inferences, and the effect of these perceptions on judgment is often mediated through affective experience. Like other kinds of evaluations, moral judgments are frequently based on emotional intuitions (“gut feelings” of right or wrong) that emerge without intention or effort, and they do so much quicker than the assumption of a deliberate multi-stage processing could allow for. Support for the claim that numerous moral intuitions or judgments do not involve elaborate thinking comes from experiments showing that moral intuitions appear in pre-verbal infants (Hamlin, 2013). Similarly, studies show that moral judgments can emerge instantly (in a quarter of a second – Decety & Cacioppo, 2012), even when it is hard for a perceiver to supply any rule-related justification (Cushman, Young, & Hauser, 2006).

Although these two views of the nature of moral judgments are utterly disparate, both enjoy substantial empirical support. There are several reasons for this paradox, the most important being that they involve two psychological processes (Greene, 2007; Haidt, 2012). Whereas moral reasoning draws on conscious, slow, and effortful information-processing, intuitive responses tend to draw on processes that are automatic, fast, and effortless (Greene, Morelli, Lowenberg, Nystrom, & Cohen, 2008; Haidt, 2007). There are many instantiations of dual-process theorizing in social psychology, and most agree that automatic processes are always active, while deliberative processes occur only in conducive conditions – when the individual is both motivated to engage in and capable of deliberate responding. Under the influence of such theorizing and findings, there is emerging a consensus that moral judgment and behaviour can be best accounted for by a dual-process model (Conway & Gawronski, 2013; Greene, 2007; Haidt, 2007). However, the recently growing body of research suggests that dual-process models or typology is more consistent with single-process or multi-process (Ferguson, Mann, & Wojnowicz, 2014; Kruglanski & Gigerenzer, 2011; Melnikoff & Bargh, 2018; Osman, 2004). Therefore, instead of using dual-process typology of two separate systems we can frame intuitive and deliberative processing as one system which can influence moral judgments. Typically intuitive processing dominates moral judgments (though the deliberative processing can also influence judgments if there is a motivation to do so). This makes intuitions crucial to the understanding of moral judgments. Because intuitions are highly idiosyncratic (Wojciszke, Parzuchowski, & Bocian, 2015), and can be influenced by cues of similarity and liking (Haidt, 2001), explaining their nature is vital for clarifying moral controversies and the resulting social divisions that can be disruptive in modern societies.

2. Affective processes and morality

Most intuitions are affective in nature and may result from three types of affect: discrete emotions, mood, and attitudes (for a review, see Clore & Schnall, 2005). Discrete emotions are specific, short-lived affective states, having a clear referent, consisting of arousal (which involves valence and intensity), cognitive appraisals, as well as bodily symptoms, expressions, and action tendencies. In contrast, moods are longer-lived affective states that are mild and diffuse in nature, lack a clear referent, and result from ongoing, mostly automatic, evaluations of recently appearing stimuli. Attitudes are summary evaluations of objects, formed on-line or stored in long-term memory, which can influence current affective states and information processing. Because all

three involve feelings with negative or positive valence, they all may give rise to affective intuitions.

Of these three types of affect, only discrete emotions received substantial attention as a source of moral intuitions. Several authors (Haidt, 2012; Rozin, Lowery, Imada, & Haidt, 1999) posited that specific emotions are linked to violations of particular moral concerns. Early on anger was said to be linked to concerns about personal harm and justice; disgust to concerns about purity, contempt to group loyalty and fear to authority. Of these, especially disgust has been the subject of numerous studies testing three hypotheses: elicitation, amplification, and moralisation (Pizzaro, Inbar, & Helion, 2011). The *elicitation hypothesis* assumes that the act of moral condemnation (finding out that somebody has violated a rule) evokes disgust. This hypothesis has found strong support – violations of purity (degradation due to the misuse of the human body, inappropriate sexual acts, breaking food taboos) arouse disgust and the same is true for violations of other moral concerns like distributive justice and harm (for reviews, see Avramowa & Inbar, 2013; Landy & Goodwin, 2015). The *amplification hypothesis* inverts the causal relation assuming that incidentally induced disgust can increase condemnation of unrelated moral violations. Numerous studies have showed that disgust induced in a variety of ways can increase condemnation of a range of immoral acts (for a review, see Schnall, 2017). Although a recent meta-analysis (Landy & Goodwin, 2015) suggested that these effects have been inconsistent, it found especially pronounced effects for gustatory/olfactory modes of disgust inductions. For other inductions moderating factors such as bodily sensitivity need to be taken into account (Schnall, Haidt, Clore, & Jordan, 2008), as shown on a number of occasions (e.g., Ong, Mullette-Gilman, Kwok, & Lim, 2014; Petrescu & Parkinson, 2014; Schnall et al., 2008; but see also Johnson et al., 2016). The *moralization hypothesis* assumes that experiencing disgust results in moral condemnation of acts which would otherwise remain morally irrelevant. In the first demonstration of this effect, participants had been induced (via a post-hypnotic suggestion) to experience disgust in response to a neutral word (e.g. ‘frequently’). Encountering this word in subsequent vignettes led the participants to condemn the described protagonists, even when his actions were void of any immoral content (Wheatley & Haidt, 2005). Although direct support for the moralization hypothesis remains overall scarce, there is supportive evidence for it (Landy & Goodwin, 2015).

Both the elicitation and amplification hypotheses tend to assume exclusive correspondence between moral content and specific emotions, such that harm is linked to anger (but not disgust) and purity is linked to disgust (but not anger). Although such correspondence has been found in some studies, others did not necessarily show exclusive relations between specific kinds of moral content and discrete emotions, although such comparisons might have been not fully conclusive due to methodological issues (Cameron, Lindquist, & Gray, 2015; Schnall, 2017). Disgust, for example, has been shown to not only influence considerations of purity violations, but also fairness violations (Cannon, Schnall, & White, 2011; Chapman, Kim, Susskind, & Anderson, 2009). Homicide (harm violation) and suicide (purity violation) both elicit anger and disgust to a similar degree (Rottman, Kelemen, & Young, 2014), and numerous studies found anger and disgust to be very highly correlated, sharing up to 67% of variance during moral judgment concerning violations of different sorts (e.g. Giner-Sorolla, Bosson, Caswell, & Hettinger, 2012). It is therefore possible that various affective cues can contribute to moral considerations, in particular when making moral character attributions, given that the stakes are especially high and global, stable inferences are particularly useful in predicting future behavior of another person.

If pure affect more broadly drives moral judgment, then the previously mentioned moods and attitudes can also be expected to influence moral condemnation and approval. Indeed, a large amount of research has shown that diffuse moods influence a variety of evaluative judgments, such as life satisfaction, performance appraisals, mundane and important decisions, and evaluations of persons and products

(Schwarz, 2012). Astonishingly, to our knowledge there are no studies testing directly the influence of mood on moral judgment. Previous work tested rather discrete emotions like amusement (Valdesolo & DeSteno, 2006) or mirth and elevation (Strohinger, Lewis, & Meyer, 2011) than moods which are longer-lived affective states than emotions. We did find one paper which in our opinion use direct mood manipulation proposed by Schwarz & Clore (1983, Experiment 1). This research showed that people use affective cues for justice judgments only when they lack relevant information for a situation (Van den Bos, 2003). The same is true for attitudes. For example, some studies tested the moral mandate hypothesis and showed that people are less likely to get along with those who do not share their moral convictions (Skitka, 2010; Skitka, Bauman, & Sargis, 2005). Others showed that moral values are strongly and systematically associated with foreign policy attitudes (Kertzer, Powers, Rathbun, & Iyer, 2014) and vaccine hesitancy (Amin et al., 2017). Although these studies showed that moral convictions strongly impact attitudes, none of them tested reversed dependence, mainly how attitudes influence moral judgments. Evaluation, by definition and by empirical findings (Clore & Schnall, 2005; Fazio, 2007), lies at the core of attitudes, and the question of how attitudes influence information processing has been a traditional problem for this field of research (Eagly & Chaiken, 1993; Gawronski & Bodenhausen, 2011).

3. Moral character

Equally surprisingly, so far intuitive and affective influences of judgments of morality have almost exclusively concerned those involving *actions* of protagonists, rather than attributions of their moral *character*. So, a considerable amount of research has concerned the question of whether some acts are permissible or condemnable, especially as based on their actual outcomes (consequentialist ethics) versus rules and values (deontological ethics). On the other hand, dilemma research showed that people take moral actions into account as they reflect moral character (Uhlmann, Zhu, & Tannenbaum, 2013; Everett, Pizarro, & Crockett, 2016; Rom, Weiss, & Conway, 2017; Rom & Conway, 2018). However, most actions are fleeting, and their construal is insufficient for prediction of the future unless something more stable and trans-situational is inferred – moral character, the (perceived) disposition to produce morally bad or good acts. So, we think that the appropriate unit of analysis in research on moral judgment is a person, not a single, transient act produced by the person (Uhlmann, Pizarro, & Diermeier, 2015).

This is in line with a well-known tendency of observers to attribute stable personality characteristics to others even when situational constraints allow no such inferences, a classical phenomenon known as the *correspondence bias* (Jones & Davis, 1965; Jones & Harris, 1967). More recent research shows that deciding whether somebody is trustworthy and cooperative takes place within milliseconds (Decety & Cacioppo, 2012; Willis & Todorov, 2006). Such processes have been shown to be especially influential for moral attribution, because observers tend to err “on the safe side” when in doubt. For example, situational considerations such as extenuating circumstances carry little weight in judging people's immoral actions, and somebody who commits an immoral act such as adultery is seen as more likely to also engage in other immoral acts such as lying or stealing (Reeder & Spores, 1983). Similarly, because moral and immoral actors both can engage in moral behavior, but only the latter engage in immoral behavior, such behaviors should be especially diagnostic, in line with the general finding that negative information is weighted more heavily in impression formation than positive information (Fiske, 1980). Indeed, it is difficult to get rid of an immoral attribution once it has been formed, whereas it is easy to revise a moral attribution as soon as the slightest bit of immoral information is provided: Participants' impressions of a person who was initially presented as having engaged in a number of moral behavior change more if they are later described to engage in a single immoral

behavior, but impressions are revised only very little when an immoral person subsequently engages in a moral act (Reeder & Coovert, 1986). Thus, moral contamination of character is like a stain on someone's reputation that is likely to remain.

Focus on moral character is also more than justified in the light of data on person perception, which appear to be underlain by two content dimensions – communion and agency (Abele & Wojciszke, 2014). Past work suggested that those two dimensions are morality and competence (Wojciszke, 2005), because trait ascriptions capturing morality and competence dimensions account for 82% of the variance in global impressions of persons known from everyday contacts (Wojciszke, Bazinska, & Jaworski, 1998), suggesting that not much else is influencing impressions besides these two types of content. Of the two, however, the perceived morality matters much more than the perceived competence. When forming global evaluations of others, perceivers are more interested in their moral than competence qualities, construe their behaviour in moral rather than competence terms (even if both are possible), and their impressions and emotional responses are more strongly based on morality than competence considerations. The positivity-negativity of global impressions valence is decided by information on morality, whereas information on competence is only a mild modulator of impression intensity (Wojciszke, 2005). This corresponds with more recent research which showed that person perception is better explained by three content dimensions – morality, communion and competence, but still moral dimension is central in person perception processes (Brambilla & Leach, 2014; Goodwin, Piazza, & Rozin, 2014). Finally, previous work showed that people believed to be morally superior (Epley & Dunning, 2001) or at least less evil than others (Klein & Epley, 2016). This suggests that perception of moral character of people who are similar to us can be biased by the interference with our moral superiority.

4. Present studies

Because of its primacy in forming impressions, we expect that character attributions are susceptible to intuitive influences that in reality bear no relevance to the judgments in question. However, there are no studies exploring the problem of how attitudes influence moral judgments. The present project addressed this important gap in knowledge by focusing on attitude-driven affect as a factor shaping moral character attributions.

Devising the present research, we had three specific goals. The first was to investigate whether a positive (negative) attitude toward a target person increases (decreases) moral evaluations of the target, which we call the *mere liking effect*. To do so we used three different manipulations well-known to change interpersonal attitudes: similarity-dissimilarity of beliefs between an observer and a target person, repeated presentation of initially neutral stimuli (i.e. mere exposure) and facial mimicry of the target. Our second goal was to test the extent to which the effect of attitude-inducing conditions on moral character attributions is mediated by liking of the target person, therefore constituting an intuitive, non-rational influence. Because competence is the second dimension of person perception, we measured perceptions on this dimension as well, to ascertain whether the expected influences of attitudinal affect are restricted to judgments of moral character or spill over judgments of competence. For presented studies we report all measures and manipulations.

5. Experiment 1

Perceptions of moral character can be measured in at least two ways. One is direct asking for attributions of moral traits to a target person (Moral? Honest? etc.) and we used this approach in the last two studies of the present series. In the first two we used more indirect measures – we asked for prediction of specific behaviors which is possible only as based on an impression about moral character.

Specifically, we asked for predictions of the target's behaviors prototypical for morality (When given too much of a change in a shop, returns the surplus to the cashier) or lack of thereof (Steals products in a supermarket). Predictions of these behaviors provided a basic index of moral character. An auxiliary index was provided by behaviors tapping interpersonal trust and these were predictions of the perceiver's own behaviors directed at the target (I would buy a used car from her).

Similarity of beliefs has been extensively studied and is probably the most robust source of interpersonal attraction (Byrne, 1971). A meta-analysis of > 300 laboratory studies showed an average similarity-attraction link of $r = 0.59$ (Montoya & Horton, 2013). Therefore, in this first study we turned to similarity of beliefs as a manipulation (Byrne, 1961) and measured liking for persons of similar or dissimilar beliefs, as well as their perceived morality, trustworthiness and competence. We expected that similar persons will be more liked, perceived as more moral and trustworthy, and that the influence of similarity on moral and trustworthiness evaluations will be mediated by liking. We also included a measure of perceived competence to test whether the effect of the similarity manipulation spills over to judgments concerning content other than morality.

5.1. Method

5.1.1. Participants and power analyses

Two hundred and eighty-two participants were recruited via the Polish commercial online panel Ariadna (similar to Amazon Mechanical Turk, but compensating participants with material rewards instead of money). We excluded 28 participants who reported a score lower than 4 on a 1–6 scale indicating how carefully, seriously, and honestly they completed the study (though without this exclusion the results were virtually the same). Thus, our final sample included 254 participants (101 women; mean age 36.76 years, $SD = 13.60$). As many as 60.80% reported age above 26 years (the standard age of finishing university studies in Poland). So, this is clearly a non-student sample and together with student samples used in next studies of the present series, our participants show a sufficient diversity to allow data-informed inferences.

We conducted power analyzes using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007) and basing on the fact that the average similarity-attraction link is Cohen's $d = 1.46$ according to the mentioned meta-analysis of Montoya and Horton (2013). Results suggest that, given alpha of 0.05 and power of 0.90, a sample of 18 participants would be required to detect an effect size of 1.46. Because we assumed that the effect size for the influence of similarity on judgments of morality could be smaller, we recruited a much larger sample of 254 which is more than sufficient for expected medium effect of beliefs similarity on moral judgments. According to Table 3 of Fritz and MacKinnon (2007), a total sample of 54 to 59 participants is needed to achieve 0.80 power on $p = .05$ when testing for indirect effect with large size of α and medium size β paths. Therefore, the sample of 254 participants seems sufficient to testing whether interpersonal attraction (liking) mediated the influence of similarity of beliefs on judgments of moral character and trust.

5.1.2. Procedure and manipulation

Within a two-day window of time we sent invitations to Ariadna panelists, describing the study as concerning person perception on the basis of a small amount of information about a target person's beliefs. Panelists who agreed to participate were redirected to a questionnaire prepared in Google Sheets, where we presented the purpose of the study and further tasks for participants. The first task was to fill out a short questionnaire on eight socio-political issues. We selected eight issues from 20 in a pilot study ($N = 152$; 126 women; mean age = 22.21 years), where participants answered on seven-point scale (anchors: 1 – I totally disagree; 7 – I totally agree) to what extent they agree with provided statements. Ten statements represented social and

economic right-wing worldview and another ten left-wing. Therefore, we picked six issues with the highest variance and two with low variance and mean close to the middle of the scale.

We presented each issue in a two-point (disagree vs. agree) scale. Six issues were important to the pilot subjects (abortion ban, capital punishment, a prohibition of pornography, gay marriage, job security guaranteed by the government, protecting national traditions), two remaining had a minor importance (vetting and full decommunization in Poland, closing unprofitable enterprises). The second task was to read a questionnaire allegedly filled out by another, randomly selected panelist and to make an impression of that panelist. In reality a computer program created two conditions: In the similarity condition answers concerning the six important issues were identical to those of the participant (randomly assigned to this condition), while answers concerning the two unimportant issues were opposite to those of the participant. In the dissimilarity condition, answers concerning the six important issues were opposite to those of the participant, while answers concerning the two unimportant issues were identical to those of the participant.

5.1.3. Measures

The third task of participants was to report their impressions. To this end they filled measures of liking, moral character, trust, and competence. The main dependent variable, moral character, was measured with predictions of the target person's behaviors on scales ranging from 1 (very unlikely) to 10 (very likely). Four moral behaviors (When finding a wallet with documents and money, brings it back to the owner. When given too much of a change in a shop, returns the surplus to the cashier. Changes bandages of her ailing mother a few times a day. On a social occasion, kindly converses with everybody.) and two immoral behaviors (Steals products in a supermarket. Noisily shows schadenfreude at an acquaintance's failure.) constituted a reliable measure of moral character (all reliabilities are reported in Table 1). These behaviors were mixed with six behaviors showing competence (When deciding to get a good grade, studied 6 h a day for many days. Doesn't stop working despite fatigue. Solves difficult test with a maximum score.) or incompetence (Is easily persuaded to buy the worst stuff. Cannot get through a simple matter with administration. Believes in everything published in tabloids.)

To measure trust (an auxiliary index of moral impression) the participants rated a probability of their own six behaviors toward the target person: I would give her my phone number. I would lend her 50 zlotys (about \$15). I would buy a used car from her. I would vote for her in an election. I would invite her to my home. I would confide her a personal secret. These predictions were made on 1–10 scales. Finally, the measure of liking consisted of two 1–10 estimates of how likely the participant would find the target person to be likeable and pleasant.

Table 1
Differences between similarity and dissimilarity conditions in Experiment 1 (Cronbach's α s in parentheses).

	Dissimilarity		Similarity		t	d_s	95% CI for d_s	
	M	SD	M	SD			Lower	Upper
Moral character (0.79)	5.85	1.56	7.27	1.54	7.26***	0.91	0.66	1.16
Trust (0.90)	3.18	1.90	5.11	2.09	7.68***	0.97	0.72	1.21
Liking (0.91)	5.05	2.00	7.32	1.77	9.52***	1.20	0.95	1.45
Competence (0.71)	6.00	1.55	6.95	1.26	5.33***	0.67	0.42	0.92

*** $p < .05$.

5.2. Results and discussion

5.2.1. Moral character and trust

As can be seen in Table 1, moral character of similar persons was perceived as much higher than that of dissimilar ones, and this effect was large ($d = 0.91$). In the same vein, similar persons were perceived as more trustworthy than dissimilar ones, and this effect was also large, ($d = 0.97$). In both cases the lower limit of confidence interval for d was far away from zero.

5.2.2. Liking as a mediator

Similar persons were also more liked than dissimilar ones ($d = 1.20$). To test our prediction that liking mediates the influence of similarity on moral judgments we computed the appropriate mediation. We tested the overall significance of the indirect effect by devising a 95% confidence intervals, as advocated by Preacher and Hayes (2004), indirect effect = 0.53, 95% confidence interval (CI) = [0.40, 0.68]. Because zero fell outside of the interval, the indirect effect of experimental condition on the evaluation of moral behaviors was significant (MacKinnon, Fairchild, & Fritz, 2007).

A similar procedure was applied to trust – our second index of moral evaluation – and it produced very similar results. The overall significance of the indirect effect = 0.63 was evidenced in a 95% confidence interval that did not contain zero [0.47, 0.82]. To conclude, the attitudinal similarity influenced judgments of both moral character (tapped by predictions of the target's behaviors) and trust (tapped by predictions of participants' own behaviors directed at the target). These influences were mediated by liking.

5.2.3. Competence

As can be seen in Table 1, similar persons were also seen as more competent than dissimilar ones, $d = 0.67$. This influence of similarity on competence was significantly lower than its influence on the moral character judgments, $z = 2.16$, $p = .031$. Still, it is somewhat unexpected and probably due to a surprisingly strong correlation between judgments of moral character and competence, $r = 0.67$, $p < .001$. While other studies have found positive correlations between competence and morality (e.g., Rom et al., 2017), and even showed that immoral targets are seen as less competent (Stellar & Willer, 2018), this correlation cannot be attributed to the non-existing semantic similarity of behaviors tapping competence (e.g. Solves difficult test with a maximum score) and moral character (e.g. Changes bandages of her ailing mother a few times a day). It is well known that strong consistency pressures operate within attitudes (Eagly & Chaiken, 1993) and we suppose that different measures of impressions may be to different degrees amenable to these pressures. Therefore, we decide to use different measures of morality and competence in the last two experiments of the present series.

6. Experiment 2

Though Experiment 1 revealed strong influences of the similarity

Table 2
Differences between conditions in Experiment 2 (Cronbach's α s in parentheses).

	Dissimilarity		Control		Similarity		t	d_s	95% CI for d_s	
	M	SD	M	SD	M	SD			Lower	Upper
Moral character (0.73)	5.47 _a	1.24	5.98 _{ab}	1.46	6.25 _b	1.03	3.53***	0.68	0.30	1.06
Trust (0.79)	2.90 _a	1.37	3.19 _a	1.42	4.09 _b	1.86	3.90***	0.72	0.34	1.11
Liking (0.92)	5.36 _a	1.59	6.38 _b	1.80	6.67 _b	1.74	4.17***	0.79	0.41	1.17
Competence (0.71)	5.09 _a	1.26	5.48 _{ab}	0.96	5.86 _b	1.15	3.32***	0.64	0.26	1.02

Notes. Means assigned different subscripts within the same row differ at $p < .05$ (Scheffe's test).

Statistics t and d refer to the comparisons between similar and dissimilar conditions.

*** $p < .05$.

manipulation on judgments of moral character and trust, it remains unclear whether the effect is attributable to the attraction resulting from similarity or rather to repulsion resulting from dissimilarity (Singh & Ho, 2000). Therefore, we conducted a replication introducing a control condition that did not contain any information on the target person's beliefs.

6.1. Method

6.1.1. Participants and power analyses

We collected data online from 180 participants who were first-year undergraduates of a Polish university in exchange for credit points. We conducted power analyses using G*Power (Faul et al., 2007) and basing on the fact that the similarity-attraction link in Study 1 was $d = 1.20$. Results suggest that, given an alpha of 0.05 and power of 0.95, a sample of 33 participants would be required to detect an effect size of 1.20. The effect size for the influence of similarity on judgments of morality in Study 1 was $d = 0.91$, G*Power suggest that, given an alpha of 0.05 and power of 0.95, a sample of 55 participants would be required to detect an effect size of 0.91. We decided to use a three times larger sample and to recruit 180 participants, which is sufficient to detect medium effects. We excluded 24 participants, who reported a score lower than 4 on a 1–6 scale indicating how carefully, seriously, and honestly, they completed the study. Our final sample thus included 156 participants (138 female and 18 males; mean age = 27.30 years, $SD = 8.84$).

6.1.2. Procedure and materials

Within a five-day window of time we sent invitations to the participants, describing the study as a social psychology experiment about social perception. The procedure was identical to that of Experiment 1 with one difference – addition of a control condition. To this end we introduced of a target person's face with a neutral expression and average attractiveness (this face was shown in all conditions). Similar and dissimilar conditions were created in the same way as previously, but in the control condition participants did not receive any information on the target's beliefs and instead responded only to his face. As previously, we measured liking, moral character, trust, and the target's perceived competence (as are reported in Table 2). The latter measure consisted of predictions of four behavior preselected as unrelated to morality but conveying competence (graduated from his university in the top1%. Speaks fluently three languages. Is frequently recognized for his work. Completes all his tasks well before the deadline.) and four conveying lack of competence (In school repeats the same class two times. Cannot cope with even the simplest tasks. Gives up after the first difficulty. Is always the first to drop out.)

6.2. Results and discussion

6.2.1. Moral character and trust

Moral character attributions were subjected to an analysis of variance with condition serving as the sole factor, followed by a post hoc analysis of differences between means. As illustrated in Table 2, the

condition main effect was significant for moral character, $F(2,153) = 5.72, p = .004, \eta^2 = 0.07$, with similarity and dissimilarity conditions differing from each other, but none of them differing from the control group. The condition effect was also significant for judgments of trust, $F(2,153) = 8.33, p < .001, \eta^2 = 0.10$, with Scheffe's tests showing that dissimilar and control condition did not differ, though both differed from the similarity condition. So, the answer to the question of whether the present effects are driven by similarity or dissimilarity appears somewhat inconclusive. For both measures the control condition was located between the similarity and dissimilarity conditions, and for both measures these extreme conditions differed significantly, but they tended not to differ from the control condition.

6.2.2. Liking as a mediator

A similar analysis of variance of the liking measure revealed the condition main effect, $F(2,153) = 9.53, p < .001, \eta^2 = 0.11$, with Scheffe's test showing that the dissimilarity condition was significantly different from the remaining two conditions. Our second question was whether the present study replicates the mediation found in Experiment 1. To this effect we performed a mediation analysis on data coming from the similar and dissimilar conditions. Once more the influence of conditions on moral judgments was completely mediated by liking. The indirect effect = 0.49 was significant, $z = 3.68, p < .001$ and zero fell outside of its 95% confidence interval [0.15, 0.44]. Experiment 2, therefore, replicated the main findings from the first experiment.

6.2.3. Competence

A one-factor analysis of variance of the competence measure revealed the condition main effect, $F(2,153) = 6.20, p < .003, \eta^2 = 0.08$. As can be seen in Table 2, a similar person was perceived as more competent as dissimilar one, but none of them differed significantly from the control group. This also a replication of the effect found in Experiment 1.

7. Experiment 3

Both experiments reported so far revealed a strong influence of belief similarity-dissimilarity on judgments of moral character. However, value-laden attitudes concerning capital punishment, abortion or gay marriage can themselves become moral convictions or "moral mandates" that are associated with the belief that one's own attitude is more universal and objectively true than attitudes without such moral undertones (Skitka, Washburn, & Carsel, 2015). Simply believing an issue is moral suffices for most people to distance themselves from others who have dissimilar beliefs on the issue and to treat them in unfair and intolerant ways (Wright, Cullum, & Schwab, 2008). In effect, whether other people have similar or dissimilar convictions provides a subjectively strong (albeit still subjective) basis to judge their morality. In other words, our participants could believe that their moral judgments were anchored in some facts concerning a target person, rather than in their own attitudinal responses to the latter, as our mediation analyses strongly suggest. To remove this seemingly "factual" basis of moral judgments, in the remaining studies we turned to two attitude inducements that are entirely free of content – the mere exposure effect and facial mimicry.

Unreinforced repeated exposure of a stimulus leads to a positive attitude toward the stimulus, independently of whether it is meaningful or meaningless, both for visual and auditory exposures (Zajonc, 1968). This mere exposure effect proved to be a reliable phenomenon, especially for short exposures, below 1 s (Bornstein, 1989; Montoya, Horton, Veva, Gitkowicz, & Lauber, 2017). Therefore, we sought to replicate our previous results using mere exposure of face photographs as a manipulation inducing liking and the downstream changes in moral character judgments of persons presented in the photographs. To broaden the scope of our findings, we also changed the measure of moral character from predicting behaviors to rating moral traits. We also asked our

participants to rate competence-related traits of the target persons to further explore the breadth of the present mere-liking effect.

7.1. Method

The method of the present study followed closely the manipulations of Bornstein and D'Agostino (1992). Participants saw five black-and-white photographs of men with a neutral facial expression. These stimuli came from the Warsaw Set of Emotional Facial Expression Pictures (Olszanowski et al., 2015). Each photo was presented at different exposure frequencies: 0, 1, 5, 10, or 20 exposures per stimulus. After stimulus presentation participants rated various character traits of the men depicted in the photographs.

7.1.1. Participants and power analyses

The present study followed the manipulations of Bornstein and D'Agostino (1992; Study 1) which showed that the frequency of presentation to attraction effect was $d = 1.22$. G*Power (Faul et al., 2007) suggest that, given an alpha of 0.05 and power of 0.95, a sample of 31 participants would be required to detect an effect size of 1.22. We decided to use a sample three times larger and recruit 100 participants. Finally, one hundred and seven undergraduate students (67 women; mean age = 22.73 years) registered took part in this study in exchange for course credit.

7.1.2. Procedure and measures

Participants were individually taken to separate cubicles and seated in front of a computer monitor for a study on visual memory. They would be presented with photographs of men, which would appear on the computer screen for a very short time, below 1 s. We asked participants to focus on the photos and try to remember as many details of the presented men's appearance as they could. We prepared stimulus presentations in PowerPoint slides in five different versions, one version for each condition. In each version, we manipulated exposure frequencies of the men's photographs. For example, in the first version a photograph of person X was presented 20 times, a photo of person Y 10 times, a photo of Z 5 times, a photo of P one time, and a photo of person Q was not presented (see Table 3 for the full design). In all, we had six conditions, which were randomly assigned to participants involving 36 stimuli, each being a photograph of a man preceded by a fixation dot presented for 2 s. Thereafter a photo of the stimulus man was presented for 17 ms and immediately afterwards a mask (a meaningless visual pattern) was flashed for another 17 milliseconds. We achieved this time of presentation by using computer monitors with a 60 Hz refresh rate and setting time for one slide display at a single display (1frame/0.06 = 16.67 ms). The total time for all stimuli to be presented was 1 min and 22 s.

When the stimuli presentation ended, participants were moved to an online questionnaire where we showed them separately and randomly each man from the first task. We asked them to rate how much the listed traits described the man from the photograph using a 7-point scale anchored on 1 (he definitely is not) and 7 (he definitely is). Two items – pleasant and likeable – constituted the liking scale (Cronbach's $\alpha = 0.89$ averaged over the five exposure levels). Two items – moral

Table 3

The frequency of stimuli presentation for each condition in Experiment 3.

Version	Frequency				
	20	10	5	1	0
1	X	Y	Z	P	Q
2	Q	X	Y	Z	P
3	P	Q	X	Y	Z
4	Z	P	Q	X	Y
5	Y	Z	P	Q	X

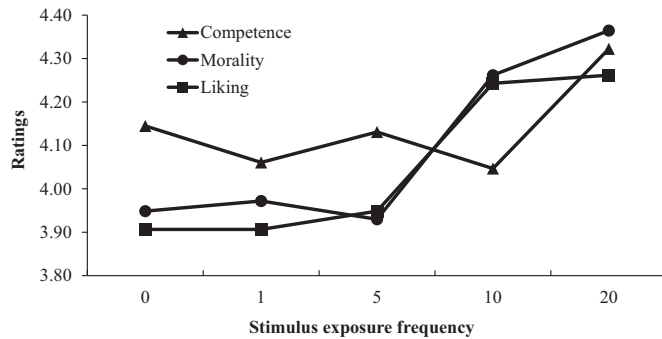


Fig. 1. Influence of exposure frequency on competence, morality and liking ratings.

and honest – constituted the moral character scale (average $\alpha = 0.86$), and two items – intelligent and efficient – constituted the competence scale (average $\alpha = 0.60$). Traits were presented randomly on the same page. At the end participants saw two photographs of men displayed during the first task and another two that were not presented. To support our cover story of studying visual memory, we asked participants whether the face had appeared during the initial stimuli presentation.

7.2. Results and discussion

7.2.1. Trait attributions

The results are presented in Fig. 1. To test the hypotheses, we conducted a 2 (trait content: morality and competence) \times 5 (exposure frequency: 0, 1, 5, 10, 20) analysis of variance on trait ratings, with both factors manipulated within participants. This revealed a significant main effect of the exposure frequency, with frequently exposed faces receiving higher ratings than infrequently exposed ones, $F(4, 103) = 3.10, p = .019, \eta_p^2 = 0.11$. Moreover, there was a significant exposure \times trait content interaction, $F(4, 103) = 2.56, p = .046, \eta_p^2 = 0.11$. Morality ratings showed a more rapid increase as a function of the exposure frequency than did competence ratings. Morality ratings yielded a significantly stronger linear exposure effect, $F(1, 106) = 8.35, p = .005, \eta^2 = 0.07$ than did competence ratings which yielded only a non-significant trend, $F(1, 106) = 1.30, p = .257, \eta^2 = 0.01$.

7.2.2. Liking

Furthermore, we subjected liking ratings to a one-way analysis of variance with the exposure frequency as a sole factor. This analysis revealed a significant linear effect of the exposure frequency on liking ratings, with frequently exposed faces receiving higher ratings than infrequently exposed faces, $F(1, 106) = 5.74, p = .018, \eta^2 = 0.05$. To sum up, exposure frequency influenced liking and judgments of moral character, but not judgments of competence. These disparate effects on morality and competence ratings were found despite their quite strong correlations, for the 0 level of exposure: $r = 0.46$, for the level 1: $r = 0.58$, for the level 5: $r = 0.41$, for the level 10: $r = 0.50$, for the level 20: $r = 0.22$, all $ps < 0.022$.

7.2.3. Liking as a mediator

To test the crucial hypothesis that the exposure frequency effects on morality perceptions are mediated by liking we used the MEMORE macro for SPSS. This procedure allows inferences about indirect effects based on 20,000 bootstrap samples and Sobel tests of significance (Montoya & Hayes, 2017). To perform these analyses we aggregated ratings of morality, competence, and liking over the low and high exposure frequency conditions. The ratings from the 0 and 1 exposure conditions were averaged to a single low-frequency level, whereas the ratings from the 10 and 20 exposure conditions were averaged to a

single high-frequency level. Mediation analyses showed a significant indirect effect of the exposure frequency on morality through liking ratings, $ab = 0.169, 95\% \text{ CI } [0.029, 0.344], \text{ Sobel } z = 2.27, p = .023$. Similar mediation analyses for the competence ratings did reveal an indirect effect of the exposure frequency on competence through liking ratings was significant, $ab = 0.127, 95\% \text{ CI } [0.024, 0.240], \text{ Sobel } z = 2.26, p = .024$.

To summarize the findings, the exposure frequency influenced liking in line with the classic mere exposure effect and numerous previous findings (Bornstein, 1989). Judgments of moral character showed a similar effect, which was completely mediated by increases in liking. Judgments of competence, although completely correlated with moral judgments, were not directly affected by the exposure frequency. Clearly, the change of the measures moral character and competence resulted in restricting the mere liking effect to moral judgments. We will return to this issue in the general discussion.

8. Experiment 4

Mere exposure was used in Experiment 3 as one way of inducing an irrelevant positive attitude. Mimicry is another inducement of interpersonal attitudes that is entirely free of any specific content concerning attributes of target persons. Indeed, spontaneous mimicking involves reacting to another people's emotion, its meaning and the potential intention of the expresser (Hess & Fischer, 2016). As a result, persons whose gestures or face expressions are mimicked tend to like the mimickers more than un-mimicked ones (Chartrand & Bargh, 1999). Numerous studies on this chameleon effect showed the mimicry-induced changes in liking to be robust and accompanied by a stronger rapport and empathy, greater helping to the mimicker and unrelated others (Fischer-Lokou, Martin, Guéguen, & Lamy, 2011; Kulesza, Dolinski, Huisman, & Majewski, 2014; van Baaren, Holland, Kawakami, & van Knippenberg, 2004) and even decreases in blaming of innocent victims for their misfortunes (Chartrand & Lakin, 2013). Therefore, we turned to mimicry to check whether this manipulation can also influence moral character attributions.

Our second goal was to further explore whether liking manipulations influence only moral character or spill over to judgments of other content as well. A large body of data indicates that person perception is underlain by two content dimensions – communion (concerning social functioning and social value of a person's goals) and agency (concerning the efficiency of goal attainment) (Abele & Wojciszke, 2014). Recent developments in this area revealed that each of the dimensions has two sub-dimensions: Whereas the communal dimension consists of moral and warmth sub-dimensions, the agentic dimension consists of competence and assertiveness (Abele et al., 2016). Therefore, we used the Agency–Communion Inventory developed by these authors in five languages (including Polish – the mother tongue of our participants) to measure the breadth of liking effects in a greater detail.

Finally, we also included a reliable mood scale to explore a possible role of this variable in the expected effects. As already mentioned, mood influences numerous judgments, both important and trivial and there are at least two popular accounts of this influence. According to the mood-as-information theory assuming that people employ their internal states as a source of information used as long as these states are not recognized as irrelevant to the judgment at hand (Schwarz, 2012). Assuming that a manipulation inducing interpersonal attraction increases mood as well, mood may be an alternative explanation of increased moral evaluations. Therefore, we decided to take a closer look at mood in the present study.

8.1. Method

The present manipulation used a recently developed, computer-based method of mimicry induction (Kulesza et al., 2015). In this paradigm, participants observe a pre-recorded person on a computer

screen and have the illusion of a live interaction with the person, who is mimicking their facial expressions or not. Because the mimicking behavior is actually prerecorded, the method provides full control over the nature and timing of imitation, and the whole procedure is exactly the same for each participant. The materials and method with extended descriptions are available online: <http://www.chameleoneffect.eu/method/Method.html>

8.1.1. Participants and power analyses

According to the results of Study 2 of Chartrand and Bargh (1999) mimicry to liking effect is medium (Cohen's $d = 0.56$). G*Power results suggest that, given an alpha of 0.05, 1-tailed test, and power of 0.90, a sample of 112 participants would be required to detect an effect size of 0.56. Because we assumed that the effect size for the influence of mimicry on judgments of morality also could be medium, we decide to recruit a sample of 120. According to Table 3 of Fritz and MacKinnon (2007), a total sample of 71 to 74 participants is needed to achieve 0.80 power on $p = .05$ when testing for indirect effect with medium size of α and medium size β paths. Therefore, the sample of 120 participants seems sufficient to testing whether liking mediated the influence of mimicry on judgments of morality.

Because 128 people had registered to the study, we investigated all of them. Participants were first-year undergraduates (100 women; mean age = 26.17 years, $SD = 7.76$) who took part in this study in exchange for a course credit.

8.1.2. Procedure and materials

The undergraduates participated individually in a study presented as a new cross-cultural method of assessing the universality of recognition of six basic emotions. For this they would interact with another person over instant video chat. Participants then sat in an individual cubicle in front of a computer screen (with a built-in camera) located 45 cm away and listened to the prerecorded list of six basic emotions - surprise, sadness, happiness, fear, disgust, anger - over 50 trials. After hearing each specific term their task was to express the emotion facially to another person visible on the screen. Over the computer loudspeaker each emotion was presented randomly by a male voice (anger: 8 times, disgust 8, fear 8, happiness, 9, sadness 8, surprise 9) used a monotone voice to avoid conveying any affective valence.

The person visible on the screen (a female confederate) was ostensibly taking notes on her guesses of the name of emotions just presented to her by the participant. While writing down her guesses, she was herself expressing the emotion in question, thereby creating the impression she mimicked facial expressions of the participant (the mimicry condition). In the non-mimicry condition, the confederate kept her face still, not expressing any emotions. The participants did not know that the confederate was actually a professional actress (in her thirties, fairly attractive, wearing a cardigan). Importantly, the confederate's behavior was prerecorded and synchronized with the audio recording of the list of the emotions and played back to participants. Thus, we could control mimicry conditions for all the participants at the same level during the entire time of the experiment.

After the interaction participants were handed a set of questionnaires assessing their liking for a confederate on seven items (e.g. I like this person. I think this person is warm.) answered on a scale ranging from 1 (completely disagree) to 7 (completely agree) (Kulesza et al., 2015). Next they filled out the Agency-Communion Inventory (Abele et al., 2016), measuring the perceived morality of the confederate (*just, fair, honest, considerate, trustworthy*), her warmth (*caring, warm in relations with others, empathetic, helpful, friendly, understanding of others*), her competence (*efficient, capable, competent, intelligent, clever*), and assertiveness (*self-confident, stands up well under pressure, never gives up easily, can make decisions easily, feel superior, independent*). Each of these items was answered on a scale ranging from 1 (not at all) to 5 (very much). Finally, the participants completed a four-item mood scale, with two items expressing positive mood (I am peaceful and

Table 4

Differences between mimicking and control conditions in Experiment 4 (Cronbach's α s in parentheses).

	Control		Mimicking		t	d_s	95% CI for d_s	
	M	SD	M	SD			Lower	Upper
Morality (0.80)	3.54	0.61	3.79	0.63	2.32*	0.41	0.06	0.76
Warmth (0.87)	3.33	0.76	4.14	0.61	6.63***	1.18	0.83	1.53
Competence (0.79)	3.72	0.61	3.81	0.63	0.83	0.15	-0.20	0.50
Assertiveness (0.76)	3.73	0.64	3.51	0.49	-2.14*	-0.38	-0.73	-0.03
Liking (0.95)	4.24	1.06	5.85	0.84	9.44***	1.68	1.33	2.03
Mood (0.88)	2.13	1.05	1.74	0.73	-2.44*	-0.44	-0.78	-0.09

* $p < .05$.

*** $p < .001$.

relaxed; I feel well) and two reverse-scored items expressing negative mood (I am in a bad mood; I feel miserable) (Wojciszke & Baryła, 2005). All these measures showed satisfactory reliability (see Table 4).

8.2. Results

8.2.1. Trait attributions

As can be seen in Table 4, analyses with t -tests for independent samples revealed that mimicry increased perceptions of the two communal sub-dimensions of morality ($d = 0.41$) and warmth ($d = 1.18$). However, the story for agentic sub-dimensions was unlike. Mimicry failed to influence judgments of competence ($t < 1$) and it significantly decreased perceptions of assertiveness ($d = -0.38$), although the upper limit of the confidence interval for the latter was very close to 0. This pattern of results confirms our expectations that the mere liking effect is restricted to the communion domain and traits like morality and warmth.

8.2.2. Liking and mood

Table 4 shows also that mimicry heightened liking and this effect was large ($d = 1.68$). Finally, being mimicked unexpectedly decreased the participants' mood ($d = -0.44$), although the confidence interval inspection suggests that this effect was barely significant. This effect seems to be novel, as the major reviews of the mimicry literature (Chartrand & Lakin, 2013; Chartrand & van Baaren, 2009) do not report any mood effects of this behavior. From the present perspective, this mood finding is important, because it excludes a potential class of alternative explanations of the mere liking effect in terms of increases in mood and downstream effects of positive categories activation. As can be seen in Table 5, mood was a fairly isolated from other variables – it weakly correlated with liking, but was not related with any other variable measured in this study. On the other hand, liking was a central variable, strongly correlated with communal variables of morality and warmth.

Table 5

Correlations between variables measured in Experiment 4.

	1.	2.	3.	4.	5.
1. Morality					
2. Warmth	0.70***				
3. Competence	0.58***	0.34***			
4. Assertiveness	0.31***	0.05	0.64***		
5. Liking	0.47***	0.72***	0.24**	-0.05	
6. Mood	-0.08	-0.12	-0.03	0.00	-0.19*

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

8.2.3. Mediators

The mediation analysis yielded comparable results to those of previous experiments, despite changes in both the manipulation of liking and measures of dependent variables. The indirect effect = 0.24 was significant because zero fell outside the appropriate 0.95 interval [0.14, 0.34], $z = 4.88$, $p < 0.001$. Liking also mediated the influence of mimicry on the perception of warmth, the indirect effect of 0.35 was highly significant, $z = 6.20$, $p < 0.001$ [0.23, 48]. Mood – being uncorrelated with other variables – did not play a role of mediator in any analyses.

9. General discussion

Purportedly objective judgments of morality (as people typically believe) appear to be heavily influenced by liking-disliking, a paragon of subjective preferences. We presented here the first line of research showing that judgments of moral character are influenced by interpersonal attitudes (liking) in addition to frequently studied discrete emotions. Because attitudes are ubiquitous and inevitable, we believe that the present findings close an important gap in the psychology of morality and offer novel insights into the nature of moral trait attributions, as well as into the role of interpersonal attitudes.

9.1. Summary of the findings

Inducing attitudes by three different manipulations (similarity of beliefs, mere exposure of faces, and facial mimicry) and using various measures of the perceived moral character (trait ascriptions, predictions of the target's behaviors, and trust, as reflected in predictions of one's own behaviors toward the target) we showed the mere liking effect in moral judgment. Inducement of interpersonal attraction increases judgments of morality and this effect is mediated by liking, but not by changes in mood. These effects are typically large, and mediation by liking is complete in each of the four studies. These effects emerge both for increases in liking (belief similarity, exposure, mimicry) and decreases in liking (belief dissimilarity). The presented findings are internally consistent and mesh well with the scarce data gathered on the topic so far. Previous studies showed that persons who observed cheating for money evaluated such acts as immoral, but the same acts were evaluated as fairly moral when they served the observer's interests as well and liking played the role of a mediator between the interests and moral judgments (Bocian & Wojciszke, 2014a). Moreover, further studies showed that people are unaware of this egocentric bias (Bocian & Wojciszke, 2014b) and for example, entrusted more money to cheaters when the latter had cheated for the participant's benefit (Bocian, Barylka, & Wojciszke, 2016).

9.2. Implications and limitations for the nature of moral judgments

People widely believe their moral judgments to be as objective as scientific statements (Goodwin & Darley, 2008) which enables them to experience good or bad as characteristics of the judged persons, not as their own attributions (Skitka, 2014). This, in turn, allows taking strong actions, perceived as morally and objectively justified, even when they are extreme and harmful to others. However, dual-process theories of information processing in general (e.g. Strack & Deutsch, 2004) and of moral judgments in particular (e.g. Greene, 2007) strongly suggest that this objectivity belief cannot be true. The present findings clearly corroborate this suggestion, which is consistent with contemporary research on impression formation.

A classical phenomenon studied in the impression formation literature is the halo effect (Thorndike, 1920) defined currently as a bias consisting of “unwarranted inferences about the positive or negative qualities of a person based on information about other unrelated characteristics [...] such as physical attractiveness, social status, having an unusual name, interpersonal style, etc.” (Forgas & Laham, 2017, p.

289). Although the present studies did not manipulate any “unrelated” characteristics and technically do not qualify as research on the halo effect, they concern theoretically related influences of interpersonal attitudes on interpersonal perceptions. Recent literature on the halo effect distinguishes between its two main explanations (Gräf & Unkelbach, 2016). The first is the general impression model assuming that a perceiver develops a general impression of a target person, which influences ratings of individual traits of the target and this common source of variance creates correlations between ratings of various traits. The second is the salient dimension model (e.g. “beautiful is good”) assuming that information on a salient dimension directly increases other attributes ratings. In the present experiments inducements of liking influenced the judgments of both morality and competence, in line with the general impression model. Liking seems to function like a generally positive impression which influences perception of any target person's attributes provided they have a valence. Indeed, there is plenty of evidence that information on morality and perceptions of moral character dominate person perception – information on morality more strongly influences global impressions (Wojciszke et al., 1998) and liking (Wojciszke et al., 2009) than information on competence. Furthermore, information on morality is also more important than information on sociability and competence (Brambilla & Leach, 2014) and information on warmth (Goodwin et al., 2014). It remains an issue for further research to clarify when liking functions as a general impression spilling over perceptions of numerous traits and when it functions as a salient dimension in person perception that may or may not spill over to other dimensions. The present findings suggest a significant role of the way the perceptions are measured and – presumably – developed. When participants only ascribed provided traits to the target person, the mere liking effect was constrained to perceptions of morality (and warmth). When participants had to predict targets behaviors – presumably inferring the traits themselves – the mere liking effect spilled over perceptions of competence as well. Further research should address the question of whether the mere liking effect is dependent on the amount of information processing invested in developing of an impression.

The current findings also speak to the so far mixed evidence regarding the extent to which specific affective cues (e.g., feelings of disgust) directly map onto related moral considerations (e.g., purity violations), or whether such connections might be broader (Cameron et al., 2015; Schnall, 2017). One possibility is that different processes underlie judgments of moral actions relative to judgments of moral character. Given the centrality and the high stakes involved in the latter (Abele & Wojciszke, 2014) it is plausible that in this context even the slightest kind of negative information is considered to be highly diagnostic, as is the case for trait attributions in general (Fiske, 1980; Reeder & Coovert, 1986). Future research therefore would do well to further clarify the similarities and differences of intuitive influences on moral actions on the one hand, and moral character on the other.

Another important problem for further research is looking for the boundary conditions and moderators of the mere liking effect uncovered in the present research. A good candidate for a moderator is accountability, understood as an explicit expectation of having to justify one's judgments to other people. Accountability may make to human judgments similar to what transparency makes to politics – both become more straightforward, rational, and relatively free of bias. In the case of judgments, this is because people switch to more effortful and self-critical information processing when facing the necessity to justify their judgments or decisions to others (Lerner & Tetlock, 1999). For example, accountability decreases reliance on highly accessible though low diagnostic cues (e.g. first in sequence or activated by preceding situations). Indeed, liking induced by similarity of opinions or facial expressions is such a highly accessible cue. But what about its diagnosticity for moral character attributions? If people presume liking is irrelevant, then introducing accountability should remove its influence. If, however, people presume liking is a valid basis for moral

judgments, the mere liking effect should emerge also in accountability conditions. The second possibility would suggest that instead of being an extraneous variable when considering moral character, liking is a part and parcel of this judgment.

In Haidt's (2001) social intuitionist's model of moral judgment accountability indeed plays a prominent role when it comes to how people go from their own intuitions to trying to get others to share the same conviction. Following their intuitive judgment people commonly engage in post-hoc reasoning, that is, they try to come up with good reasons for their decision, even when such reasons are not plausible. Furthermore, Haidt (2001) suggests that people also use what he calls the "reasoned persuasion link", namely to attempt to use logical arguments to change other people's opinion. He cautions, however, that "moral discussions and arguments are notorious for the rarity with which persuasion takes place (Haidt, 2001, p. 819)." Thus, it is possible that for character judgments in particular people will be unwilling to revise their impression even when it becomes clear that it is not based on valid evidence.

One crucial limitation of presented studies is a fact of the use of only one model for Studies 2 and 4. One could argue that it is problematic because of the well-known influence of facial morphology. Specifically, work by Alexander Todorov (2017) suggests a morphological basis for ratings of trustworthiness. However, for each of experiments we used a different model. In Study 2 we used the male model because we wanted to add a control condition (lack of believes information, only face) which was not present in Study 1. In Study 4, we used female model not presented in other studies. Additionally, in Study 3 we used another five male models, different than the models in Study 2 and 4. We believe that this variety of faces is a persuasive argument against a facial morphology influence of trustworthiness.

9.3. Importance of attitudes

Attitudes are ubiquitous, fast to emerge from numerous sources, and people spend most of their lives surrounded by others that are to some degree familiar, meaning that people have either positive or negative attitudes toward those others. Naturally occurring moral attributions probably concern mostly persons who are already liked or disliked, and act in a way which at least potentially influences outcomes of the evaluator. This is in stark contrast to situations studied in most research on morality. These typically involve strangers as targets of evaluation (no pre-existing attitudes), who are only imagined and do something irrelevant for the fate of the evaluator (no personal involvement). In other words, moral judgments are typically studied in a sort of social vacuum, which casts reasonable doubt on the ecological validity of these studies. Bringing attitudes into moral judgment paradigms can make them more ecologically valid and, in effect, more socially relevant.

Attitudes are not only ubiquitous, but also consequential. They can heavily influence many variables (Eagly & Chaiken, 1993; Gawronski & Bodenhausen, 2011), and ignoring this influence may lead to misrepresentations of reality. For example, current theorizing on emotional responses to others' successes and failures puts much emphasis on deservingness considerations. It is assumed that deserved failures result in schadenfreude and deserved successes lead to joy, whereas undeserved outcomes lead to resentment and sorrow (Feather, 2006). However, taking into account attitudes toward the failing or succeeding person changes the picture entirely (Pietraszkiewicz & Wojciszke, 2014): Positive attitudes toward others led to empathic responses to their outcomes – joy after a success and sorrow after a failure. In contrast, negative attitudes resulted in paradoxical responses – negative to a success (resentment) and positive to a failure (schadenfreude). These emotions emerged as responses restoring balance within cognitive units consisting of the perceiver, other persons, and their outcomes. Deservingness perceptions may be rationalizations of the emotions (driven by attitudes), rather than their actual source. The same may be true for

moral character judgments – they may be frequently driven by attitudes, though rationalized by other considerations that are seemingly more rational and socially shared.

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