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Morality, Sociability, and Competence: Distinct and interactive Dimensions of Social Cognition

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Morality, Sociability, and Competence: Distinct and interactive Dimensions of Social Cognition

Abstract

This research explores the structure of social cognitive judgments and the role of moral evaluations in everyday social cognition. In Chapter 1, I show that morality and sociability are distinct dimensions in lay theories of personality and stereotype content, contrary to dominant two-dimensional models of social cognition that consider these to be two closely related aspects of a superordinate prosocial dimension of judgment. In three studies, judgments of real targets' morality and sociability did not factor together, differed in terms of mean levels, and did not correlate any more highly than they did with judgments of competence. An additional study found that cluster analysis differentiated judgments of social groups on the basis of their perceived morality and sociability, and that these dimensions of judgment differently predicted intergroup emotions. I also elaborate a functionalist account of why these three dimensions should matter in person and group perception. In Chapter 2, I build on this functionalist account, and show that morality is the only one of these dimensions that is unambiguously positive – five studies show that sociability and competence are seen as positive attributes contingent upon a target's positive morality, and are seen as less positive, and sometimes as truly negative, in immoral others. Finally, in Chapter 3, I examine the importance of morality, sociability, and competence in the self. It is widely accepted that people primarily care about morality in others, but primarily care about competence in the self. I challenge this assertion, and show that morality is highly valued in the self. Three studies showed that people are often more upset by challenges to their morality than to their competence or sociability. Moreover, the third study shows that reactions to threats to one's morality, competence, and sociability engage different negative emotions. I propose that morality is at least as central to people's identities as competence, and that prior results suggesting that competence is primary are due to peoples' high confidence regarding their own morality. This program of research emphasizes the importance of morality in everyday social cognition and the distinctness of morality from other evaluative dimensions, particularly sociability.

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MORALITY, SOCIABILITY, AND COMPETENCE:

DISTINCT AND INTERACTIVE DIMENSIONS OF SOCIAL COGNITION

Justin F. Landy

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MORALITY, SOCIABILITY, AND COMPETENCE:

DISTINCT AND INTERACTIVE DIMENSIONS OF SOCIAL COGNITION

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2015

Justin Frederick Landy

I dedicate this dissertation to my family: Fred, Jennifer, Sarah, and Hallie. Thank you all, for everything.

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ABSTRACT

MORALITY, SOCIABILITY, AND COMPETENCE:

DISTINCT AND INTERACTIVE DIMENSIONS OF SOCIAL COGNITION

Justin F. Landy

Geoffrey P. Goodwin, PhD

This research explores the structure of social cognitive judgments and the role of

moral evaluations in everyday social cognition. In Chapter 1, I show that morality and

sociability are distinct dimensions in lay theories of personality and stereotype content,

contrary to dominant two-dimensional models of social cognition that consider these to

be two closely related aspects of a superordinate prosocial dimension of judgment. In

three studies, judgments of real targets' morality and sociability did not factor together,

differed in terms of mean levels, and did not correlate any more highly than they did with

judgments of competence. An additional study found that cluster analysis differentiated

judgments of social groups on the basis of their perceived morality and sociability, and

that these dimensions of judgment differently predicted intergroup emotions. I also

elaborate a functionalist account of why these three dimensions should matter in person

and group perception. In Chapter 2, I build on this functionalist account, and show that

morality is the only one of these dimensions that is unambiguously positive – five studies

show that sociability and competence are seen as positive attributes *contingent* upon a

target's positive morality, and are seen as less positive, and sometimes as truly negative,

in immoral others. Finally, in Chapter 3, I examine the importance of morality,

sociability, and competence in the self. It is widely accepted that people primarily care

about morality in others, but primarily care about competence in the self. I challenge this assertion, and show that morality is highly valued in the self. Three studies showed that people are often more upset by challenges to their morality than to their competence or sociability. Moreover, the third study shows that reactions to threats to one's morality, competence, and sociability engage different negative emotions. I propose that morality is at least as central to people's identities as competence, and that prior results suggesting that competence is primary are due to peoples' high confidence regarding their own morality. This program of research emphasizes the importance of morality in everyday social cognition and the distinctness of morality from other evaluative dimensions, particularly sociability.

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MORALITY, SOCIABILITY, AND COMPETENCE ARE DISTINCT DIMENSIONS OF SOCIAL COGNITION

Theories of person perception and stereotype content aim to identify the fundamental, default dimensions that structure the impressions that people form of individuals and the stereotypes they form of social categories. Current theorizing in this area is dominated by the idea that we mentally classify the personalities of people and groups within a space defined by two principal dimensions. One dimension captures how a person or group relates to others and is typically referred to as "warmth" (Fiske, Cuddy, & Glick, 2007), though sometimes also as "communion" (Abele & Wojciszke, 2013). The other dimension captures the ability of a person or group to accomplish their goals, and is usually referred to as "competence" (Fiske et al., 2007), though also sometimes as "agency" (Abele & Wojciszke, 2013) or "ability" (Brycz & Wojciszke, 1992). Different researchers employ different names for these dimensions, but their theorizing largely overlaps (see Abele, Cuddy, Judd, & Yzerbyt, 2008).

Two-dimensional models of person perception and stereotyping have been highly generative, and have yielded important insights. Nonetheless, I contend that these models are too coarse to provide a fully accurate picture of human social cognition. In particular, they conflate, under the general heading of "warmth", moral characteristics like honesty and trustworthiness, and less moral, more social traits like extroversion and friendliness, often referred to as "sociability" traits (Brambilla, Rusconi, Sacchi, & Cherubini, 2011; Leach, Ellemers, & Barreto, 2007). This conflation of morality and sociability obscures the fact that many important moral character traits are not perceived as especially relevant to social warmth, and vice versa (Goodwin, Piazza, & Rozin, 2014;

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see also Brambilla, Rusconi et al., 2011; Brambilla, Sacchi, Rusconi, Cherubini, & Yzerbyt, 2012; Leach et al., 2007). It also obscures the fact that morality tends to be far more important than warmth or sociability in determining global impressions of others, as recent investigations have demonstrated (see e.g., Brambilla et al., 2011; Goodwin et al., 2014). However, while existing studies have treated morality and sociability as separate, they have not yet examined directly whether they constitute truly distinct dimensions in social judgment, or whether they instead cohere as part of a single dimension of judgment, as two-dimensional theories would predict. Resolving this question was my aim in the present research.[1]

Two-Dimensional Models of Social Cognition: A Brief History

Two-dimensional theories of social cognition originated with a seminal study of impression formation conducted by Rosenberg, Nelson, & Vivekanthan (1968), and have provided the theoretical framework for a diverse array of research in social cognition. They have been employed to understand social cognitive phenomena as diverse as impression formation (Brycz & Wojciszke, 1992; Rosenberg, Nelson, and Vivekananthan, 1998; Wojciszke, Bazinska, & Jaworski, 1998), the interpretations of others' behaviors (Wojciszke, 1994), self-evaluation (Wojciszke, Baryla, Parzuchowski, Szymkow, & Abele, 2011; Wojciszke & Dowhyluk, 2003), stereotypes of nationalities (Cuddy et al., 2009; Phalet & Poppe, 1997), and stereotypes of social groups within one's own culture (Fiske, Cuddy, Glick, & Xu, 2002; Fiske, Xu, & Cuddy, 1999; Leach, Minescu, Poppe, & Hagendoorn, 2008).

The content of intergroup stereotypes has been an especially active area of research, particularly since the inception of the Stereotype Content Model (SCM), which posits that stereotypes can be organized within a two-dimensional warmth-by-competence space. This model emphasizes that many stereotypes are not uniformly positive or negative, but rather are high on one dimension and low on the other (Fiske et al., 2002; Fiske et al., 1999). Studies testing this theory have asked participants to rate societal groups on several warmth- and competence-related traits, according to the way that participants think each group is viewed by society (Fiske et al., 2002; Fiske et al., 1999). Cluster analyses have revealed that the group stereotypes tend to fall into four clusters organized by a two-dimensional space. Each of these four clusters has been shown to produce distinct emotional responses, with high-warmth/high-competence groups (e.g., Whites and Christians) eliciting admiration, high-warmth/low-competence groups (e.g., housewives and the elderly), pity, low-warmth/high-competence groups (e.g., Asians and businesswomen), envy, and low-warmth/low-competence groups (e.g., welfare recipients and poor Blacks), contempt (Fiske et al., 2002). The fact that a majority of groups are rated as more warm than competent, or vice versa, is referred to as "ambivalent stereotyping," and has been taken as pointing towards the separability of the two dimensions in question.

Two "Fundamental Dimensions"?

Two-dimensional models of person perception and stereotype content have now become so widely accepted that warmth and competence have been dubbed the "fundamental dimensions" of social cognition (Abele et al., 2008; Fiske et al., 2007; Judd, James-Hawkins, Yzerbyt, & Kashima, 2005). However, while such models have

yielded important insights, there are several reasons to doubt that two-dimensional

models adequately represent the default dimensional structure of human social cognition.

One issue is that the "warmth" dimension has been defined and operationalized in two

different ways. It is sometimes described as an indication of a person or group's morality

– for instance, Bergsieker, Leslie, Constantine, and Fiske (2012) state that "success in

navigating interpersonal interactions requires accurately inferring others' warmth *(i.e.,*

morality) and competence" (p. 1216, emphasis added; see also Fiske et al., 2002). Yet, at

other times, warmth is described in terms of sociability; in their discussion of stereotypes

of low-warmth/high-competence groups, which typically elicit envy, Fiske et al. (2002)

cite Asians as a prototypical example, arguing that Asians "are seen as too competent, too

ambitious, too hardworking, and, simultaneously, not *sociable*" (p. 880, emphasis added).

Similarly, in describing a "warm" target of judgment, Kervyn, Bergsieker, and Fiske

(2012) used the terms *nice, sociable,* and *outgoing,* which are clearly more closely related

to sociability than to morality. Moreover, when warmth is measured directly, it is often

with a mix of morality and sociability traits. For instance, Fiske et al. (2002) measured

warmth with four traits, two of which were "pure warmth" traits that have only minimal

moral relevance: *warm*, *good-natured*, and two of which were more morally central traits:

sincere, *tolerant* (see Goodwin et al., 2014). Thus, as several researchers have noted, the

warmth dimension appears to conflate aspects of both morality and sociability, and thus

appears to have a bifurcated meaning (Bauman & Skitka, 2012; Brambilla, Rusconi et al.,

2011; Brambilla et al., 2012; Goodwin et al., 2014; Leach et al., 2007). Indeed,

proponents of two-dimensional models have sometimes explicitly argued that morality

and sociability are simply parts of the same prosocial dimension. For instance, Fiske et

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al. (2007) refer to warmth traits as "moral-social" traits (p. 78), while Fiske et al. (2002) note that "the warmth scale includes elements of both sociality… and morality… but all are prosocial traits" (p. 889).[2]

The conceptual distinction between morality and sociability can be seen clearly at the trait level. Many prototypical moral traits – which are known to play an important role in impression formation – do not centrally involve "warmth," in that they need not be infused with warm or affectionate feeling (e.g., being *honest*, *just*, *principled*, *brave*, *dependable*, *loyal*, *dedicated*, *self-controlled, responsible,* and so on), and they are not rated as being particularly relevant to interpersonal warmth (Goodwin et al., 2014). Conversely, there are many "warmth" traits that are not centrally related to morality, such as *extroverted, gregarious, sociable, easy-going, friendly* and *playful* (Goodwin et al., 2014). Hence, although morality and warmth partially overlap, in that some traits seem to involve elements of both morality and warmth equally (e.g., *kind*, *grateful*, *compassionate, forgiving*, see Goodwin et al., 2014; see also Hardy, Walker, Olsen, Skalski, & Basinger, 2011; Smith, Türk Smith, & Christopher, 2007; Study 1.3, below), these dimensions are conceptually distinct.

The fact that two-dimensional theories conflate morality and sociability might not be problematic if they were found to function in highly similar ways. But, as considerable recent evidence indicates, morality and sociability play somewhat different roles in impression formation, with moral information tending to trump warmth/sociability information in overall importance. The most comprehensive evidence of this sort comes from Goodwin et al. (2014). Using correlational, experimental, and archival methods, these researchers consistently found that overall impressions of both

real and hypothetical targets were better predicted by information about the target's moral

goodness or character than by information about their interpersonal warmth. Similar

results pertaining specifically to moral traits related to honesty were reported by

Brambilla and colleagues (Brambilla, Rusconi et al., 2011; Brambilla, Sacchi, Pagliaro,

& Ellemers, 2013; Brambilla et al., 2012). Goodwin et al. (2014) also found that overall

impressions of real people described in obituaries were better predicted by morality

information than by warmth/sociability information (Study 7). Notably, in this study, the

warmth/sociability information nonetheless predicted significant variance in overall

impressions, independent of the contribution made by moral character information,

consistent with the current hypothesis that morality and sociability are distinct

dimensions of evaluation that contribute independently to the impressions that we form of

others.

Moreover, I think that there are good theoretical reasons to assert that morality

and sociability are separate dimensions of person perception and stereotype content. As

many previous theorists have stressed, it is critically important to be able to predict

others' intentions towards us and people we care about; whether those others are likely to

be helpful or harmful, respectful or disrespectful, and so on (see e.g., Abele & Wojciszke,

2007; Pizarro & Tannenbaum, 2011; Wojciszke, Bazinska et al., 1998; Wojciszke,

Dowhyluk et al., 1998; see also Cottrell, Neuberg, & Li, 2007; Cuddy et al., 2008; Fiske

et al., 2007; Leach et al., 2007). But, in contrast to much prior theorizing, I suspect that

this information is best conveyed by a person's moral character rather than by their

warmth/sociability (see also Goodwin et al., 2014). Separate from moral character,

competence (or agency) conveys a different sort of information, which is also critical in

social life – it indicates how effectively another person or group will carry out their goals and intentions (Abele & Wojciszke, 2007; Fiske et al., 2007). Thus, it is plausible that both morality and competence are fundamental dimensions of social cognition because they each serve different functions.

However, sociability information also conveys a distinct and important sort of information that two-dimensional models overlook. Sociability traits, such as extroversion, convey how effectively a person can build *alliances* and recruit others to support their moral or immoral intentions (see Ashton, Lee, & Paunonen, 2002) – information that is important from an adaptive standpoint (DeScioli & Kurzban, 2009). Someone who is outgoing, friendly, and charismatic will find it easier to recruit allies to support their plans and intentions than will someone who is introverted, cold, and quiet, regardless of whether their plans and intentions are benevolent or malevolent. Indeed, it has been argued that the core element of the personality trait extroversion is not a mere preference for social interaction, but rather a tendency to attract social attention and garner social support, and that, as a consequence, "extraverts tend to win the competition for social attention over introverts and are thereby more likely to attract the most desirable allies, friends, and mates" (Ashton, Lee, & Paunonen, 2002, p. 251). Furthermore, it has been empirically demonstrated that extroverted individuals have larger social networks than do introverted individuals (Pollet, Roberts, & Dunbar, 2011). In turn, individuals with larger support networks are seen as particularly desirable as allies and exchange partners (Curry & Dunbar, 2011). For the same reason, in contexts of group conflict, socially well-connected individuals are seen as more intimidating and formidable foes (Fessler & Holbrook, 2013). Thus, sociability may serve as a reliable cue

that an individual or group can build a network of contacts and allies that they can rely upon to help carry out their social intentions, whether these intentions are consistent or inconsistent with one's own well-being.

Overview of the Present Chapter

I propose that morality and sociability constitute distinct dimensions of social cognition, alongside competence, such that all three dimensions capture a fundamentally different and important aspect of another person or group's social functioning, and make independent contributions to a variety of social judgments. In testing this assertion, I examined how many dimensions were revealed in factor analyses of trait ratings of individuals and groups (Studies 1.1-1.3); whether treating morality and sociability as separate dimensions helps elucidate key differences between social categories in cluster analysis (Study 1.4); and whether treating morality and sociability as separate dimensions helps discriminate the emotional reactions perceivers have towards different groups (Study 1.4). Because two-dimensional models regard morality and sociability as comprising aspects of a single superordinate dimension, they predict that judgments of people's and groups' morality and sociability should be highly similar (in terms of mean levels), that they should correlate highly, that they will factor together, and that they will predict similar emotional responses. In contrast, I predict that judgments of people and groups' morality and sociability should often diverge (in terms of mean levels), that they should only be moderately correlated at most, that they will factor separately, and that they will predict different emotional responses. The primary objective of this chapter was to pit these two hypotheses against one another.

Study 1.1

Since Rosenberg et al.'s (1968) seminal study, research within the two-dimensional tradition has tended to eschew genuinely exploratory studies of the dimensionality of participants' judgments, in favor of studies that adopt a two-dimensional model as a guiding theoretical framework. In Study 1.1, I conducted an exploratory analysis of how people characterize others.

This study builds on Rosenberg et al.'s famous study, but uses a more straightforward method. Rosenberg et al.'s participants sorted 64 personality traits into categories that "go together," and were encouraged to treat each category as a person that they knew. The task required that participants use each trait term only once. However, many personality traits are only imperfectly correlated with one another: while they might co-occur in some individuals, they diverge in other individuals. An insistence that trait terms be used only once may obscure some of the important relations that are thought to exist between these traits (though see Wing & Nelson, 1972). I adopted an alternative, and more flexible, method, in which participants rate traits in people they know. This task is arguably simpler, and provides a more naturalistic window into ordinary person-perception processes (for similar methods, see Goodwin et al., 2014; Wojciszcke, Bazinska et al., 1998). In addition, using trait rating scales rather than simply indicating the presence or absence of a trait provides a more fine-grained measure.

Accordingly, in Study 1.1, I had participants rate real people in their lives on a variety of traits that are conceptually related to morality, sociability, and competence, and factor analyzed their responses. The key aim of this study was to assess whether morality and sociability terms factored together, or separately. Whereas two-dimensional models

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of person perception would predict a two-factor solution comprised of a single prosocial "warmth" factor (including both morality and sociability traits), and a separate competence factor, I hypothesized that separate morality, sociability, and competence factors would emerge consistently. As a secondary prediction, I expected that many targets would be seen as significantly more moral than sociable, or vice versa, further supporting the notion that these are distinct constructs.

Method

Participants. Five hundred seventy-four participants, all located in the United States, were recruited through Amazon Mechanical Turk in exchange for monetary compensation. Seven failed a "Captcha" question, strongly suggesting that they were automated "bot" programs, and 60 more did not complete the survey; these 67 participants were excluded, leaving a final sample of $N = 507$. The sample was 53% female and included a diverse range of ages ($M = 32.8$ years, $SD = 12.1$). I recruited fairly large samples for Studies 1-3 (at least 400 participants per analysis) to ensure that the results of my factor analyses would be reliable (Field, 2005), and because I did not have clear a priori estimates of the effect sizes for my analyses.

Procedure. Participants were told that they would be rating the personalities of several people that they knew on various trait dimensions. Participants thought of six target individuals they knew personally, each one fitting a single criterion: someone that the participant liked, disliked, respected, and did not respect, a parent or parental figure, and a teacher or mentor. These six targets were chosen to cover a wide array of meaningful social relationships. The first four targets were included because liking and

respect have both been an important focus of prior research on two-dimensional models of person perception (Wojciszke, Abele, & Baryla, 2009), and the latter two targets were added to increase coverage across a diverse range of relationships. In order to ensure that participants were thinking of a particular person in their life, they were asked to type in the initials of this person.

Participants indicated how much each target possessed eighteen personality traits on nine-point Likert scales. Six traits each were hypothesized to relate to morality (*moral, principled, honest, trustworthy, fair, responsible*), sociability (*sociable, warm, friendly, easy-going, extroverted, playful*), and competence (*competent, capable, intelligent, effective, skillful, talented*) on the basis of prior research (Goodwin et al., 2014, Study 1). After these six pages, participants completed a brief demographic questionnaire. Aside from basic demographic information, no unreported measures were collected in this or any other study in this dissertation.

Results

Factor analyses. For each target, I factor analyzed participants' trait ratings using Principal Component Analysis with Varimax rotation[3] and parallel analysis (O'Connor, 2000) as my extraction method.

As predicted, three factors were retained for all six targets. In all but one case, traits loaded most highly on their predicted factors (mean factor loading: .75, Range: .51-.86), and cross-loadings were generally low.[4] On average, the retained factors explained 65.59% of the variance in participants' judgments (Range: 62.21-69.91). Moreover, the third factor explained a substantial amount of variance (unrotated $M = 9.50\%$, Range:

7.81-11.49; rotated $M = 19.37\%$, Range: 17.93-20.34) over and above the first two factors. In sum, separate morality and sociability factors, rather than a combined "warmth" factor, emerged from participants' ratings for all six targets.

Within-target comparisons of morality, sociability, and competence. I created composite morality, sociability, and competence scales (αs > .80) for each target by averaging participants' ratings on the six traits that consistently loaded on each factor in order to test my secondary hypothesis that many targets would be seen as more moral than sociable, or vice versa. Indeed, every target's morality ratings differed significantly from its sociability ratings (see Table 1.1 for means and standard deviations; ps < .004 by paired-samples t-tests, repeated-measures ds > .13, see Morris & DeShon, 2008, Equation 8). These results therefore provide further evidence for the distinctness of morality and sociability judgments. Furthermore, as Table 1 also shows, the disliked, disrespected, parent, and teacher targets differed in their morality and competence, ps < .002, ds > .14, and all six targets differed in their sociability and competence, ps <. 02, ds > .11.

Correlations between morality, sociability, and competence. I also computed bivariate correlations between the composite morality, sociability, and competence scales for each target. All three dimensions correlated positively with one another for every target, all ps < .001, which likely reflects participants' overall positive or negative regard for each target. More importantly, for each target, the morality-sociability correlation (M = .37; Range: .22-.56) was never larger than the morality-competence correlation (M = .61; Range: .54-.71), and was only larger than the sociability-competence correlation (M = .37; Range: .29-.56) for the respected target. This strongly argues against the idea that

morality and sociability are especially closely related and can be subsumed within one

broader dimension.

Discussion

In Study 1.1, factor analyses yielded separate morality and sociability factors for

all six targets, rather than a single overarching, prosocial factor, and all six targets were

seen as either more moral than sociable, or vice versa. Study 1.2 used a similar method

to investigate whether morality and sociability emerge as separate dimensions in

evaluations of groups.

<div align="center">

Study 1.2

</div>

Method

Participants. A new sample of 600 participants, all located in the U.S., were

recruited through Amazon Mechanical Turk in exchange for monetary compensation.

Five failed a "Captcha" question, and 85 did not complete the survey, leaving a final

sample of $N = 510$. The sample was 48% female and included a diverse range of ages (M

$= 33.4$ years, $SD = 11.7$).

Method. The method of this study closely resembled Study 1.1, but with social

categories as targets rather than individual people. Participants thought of nine social

categories that Americans generally respect, do not respect, like, dislike, admire, envy,

pity, feel contempt toward, and fear. The first four prompts were modeled after the first

four targets in Study 1.1, while the first four affective prompts capture the intergroup

emotions emphasized in Fiske and colleagues' (2002) Stereotype Content Model. Fear

was included because recent research has noted the importance of appraisals of threat in intergroup relations (Brambilla et al., 2013; Brambilla et al., 2012).

After indicating which social category they were thinking about for each prompt, participants rated how American society viewed that social category, on the eighteen trait terms from Study 1.1, using nine-point Likert scales. I asked participants to rate how each group is viewed by society, rather than to provide their own personal beliefs, because this method arguably reduces self-presentational concerns, and it is standard procedure in stereotype content research (see e.g., Brambilla, Carnaghi, & Ravenna, 2011; Fiske et al., 2002).

Results

Factor Analyses. As in Study 1.1, I factor analyzed ratings of each target group on the eighteen trait terms using Principal Component Analysis with Varimax rotation, with parallel analysis as the extraction method. Once again, three factors emerged for all nine targets. With only seven exceptions out of 162 factor loadings, the trait terms loaded most highly on their predicted factors (mean factor loading: .77; Range: .50-.90) and cross-loadings tended to be low. The retained factors explained, on average, 72.45% of the variance in participants' responses (Range: 68.56-76.16%), and the third factor explained a substantial amount of variance (unrotated $M = 10.29\%$, Range: 7.52-12.78%; rotated $M = 20.71\%$, Range: 17.50-22.40%) over and above the first two factors.

Within-group comparisons of morality, sociability, and competence. I again averaged together the six terms that typically loaded on each factor to create composite morality, sociability, and competence scales for each target (αs > .84). Within-subjects t-

tests revealed that eight out of nine target groups differed significantly in their morality and sociability ratings, ps $< .03$, ds $> .09$ (see Table 2 for means and standard deviations). The only exception was the pitied group, although there was a trend toward this group being rated higher on sociability than morality, $p = .08$, $d = .08$. All nine groups also differed significantly in their morality and competence ratings, all ps $< .002$, ds $> .15$, and in their sociability and competence ratings, all ps $< .002$, ds $>.14$.

Correlations between morality, sociability, and competence. As in Study 1.1, I calculated bivariate correlations between my composite morality, sociability, and competence scales for each target group. Once again, all three scales correlated positively for every group, ps $< .001$. And, as in the previous study, the morality-sociability correlation ($M = .48$, Range: .27-.69) was not larger than the morality-competence correlation ($M = .58$, Range: .45-.72) for any group, though it was larger than the sociability-competence correlation ($M = .35$, Range: .23-.62) for all nine groups.

Discussion

Study 1.2 revealed the same dissociation between morality and sociability observed in Study 1.1 with stereotypes of groups rather than impressions of individual people. I once again found a three-factor solution for every target of judgment and the factors were clearly interpretable as morality, sociability, and competence.

Study 1.3

One possible criticism of Studies 1.1 and 1.2 is that my trait sets primarily consisted of what might be called "pure" examples of each of my three hypothesized dimensions. I did not include traits that spanned more than one dimension, for instance,

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traits that instantiate both morality and sociability, such as *compassionate* and *humble*. It remains conceivable that when such "blended" traits are included, the morality and sociability factors would collapse into a single warmth factor. To address this concern, in Study 1.3, I employed the same basic design of Studies 1.1 and 1.2, but included three new sets of blended traits that simultaneously instantiate morality and sociability, morality and competence, and sociability and competence, respectively.

Method

Participants. Nine hundred one participants were recruited through Amazon Mechanical Turk. Nineteen failed a "Captcha" question, and 84 more did not complete the survey, leaving a final sample of $N = 798$. The sample was 43% female and represented a diverse range of ages ($M = 33.9$ years, $SD = 11.7$).

Procedure. Participants were randomly assigned to one of two versions of the study: People or Groups. In the People version ($n = 414$), participants nominated people that they knew personally whom they liked, disliked, respected, and did not respect, as in Study 1.1, and rated each of these four people on the 18 traits listed in Table 1.3. In the Groups version ($n = 384$), participants nominated social categories that Americans generally like, dislike, respect, and do not respect, as in Study 1.2, and rated each category on the 18 traits listed in Table 1.3. These trait terms were derived from the results of a pre-study (see Appendix A) and included three "pure" traits from each of my hypothesized dimensions, and three traits that represented each of the "blended" categories: morality and sociability, morality and competence, and sociability and competence.

Results

As in Studies 1.1 and 1.2, I factor analyzed ratings of each target on the eighteen trait terms using Principal Component Analysis with Varimax rotation, with parallel analysis as the extraction method. Once again, three factors emerged for all eight targets, and were clearly identifiable as morality, sociability, and competence. The nine "pure" traits always loaded most highly on their hypothesized factors (mean factor loading: .75; Range: .66-.83) and cross-loadings tended to be low. As would be expected, the "blended" traits showed some variability in which factors they loaded most highly on, and occasionally cross-loaded on more than one dimension. This was especially prevalent among the morality/competence traits. However, the morality/sociability traits always loaded most highly on the morality factor, suggesting that the moral element of these traits was predominant (see also Goodwin et al., 2014). Table 1.3 presents the frequencies with which each trait term loaded most highly on each factor. The main upshot of these findings is that including the blended traits did not cause the morality and sociability factors to collapse into a single warmth factor. Instead, a three-dimensional solution was found for every single target, as in the prior studies.

On average, the retained factors explained 66.68% of the total variance in participants' responses (Range: 60.07%-76.06%), and the third factor explained a substantial amount of variance (unrotated $M = 8.46\%$, Range: 7.39%-9.91%; rotated $M = 17.79\%$, Range: 15.33%-18.42%) over and above the first two factors.

Discussion

In Study 1.3, when using a broader trait set, I again found three clearly interpretable factors in ratings of both people and groups. This therefore allows for more confidence in the generality of my earlier results. Across three exploratory studies, people's implicit theories of both individual and group personality were more accurately captured by a three-factor solution than a two-factor solution.

Study 1.4

In Study 1.4, participants rated a large set of predetermined groups and professions on traits reflecting morality, sociability, and competence, and indicated the extent to which each group or profession elicits various emotions. The study had two aims: to investigate the utility of separating morality and sociability as underpinning group stereotypes, and to investigate how morality, sociability, and competence each predict distinct emotional responses towards these groups. I predicted that cluster analysis would reveal that at least some clusters of groups and professions would be judged higher on morality than on sociability or vice versa, and that at the group level, many groups would also differ in their morality and sociability. Moreover, I predicted that morality, sociability, and competence ratings would play different roles in predicting emotional reactions to groups.

Method

Participants. One thousand seventy-five participants located in the U.S. were recruited through Amazon Mechanical Turk in exchange for monetary compensation. Twenty-three failed a "Captcha" question, and 67 more did not complete the survey, leaving a final sample of $N = 985$. The sample was 42% female and was comprised of a

diverse range of ages (M = 31.4 years, SD = 11.1). This study required a very large

sample because each participant received only a subset of all of the stimuli (see below).

Target Groups. Ninety groups were included as targets of judgment in this

study, though to keep the task manageable, each participant rated only six groups. The

90 groups consisted of the 38 social groups included in the two major papers

investigating the SCM in American samples (Fiske et al., 2002; Fiske et al., 1999), 41

professions retained from a pre-study (see Appendix A), and 11 additional groups of

theoretical interest. I included professions because people likely have highly stereotypic

ideas of what members of various professions are like, although this has been relatively

understudied in stereotyping research. The resulting set of 90 groups constituted a

considerably larger array of groups than has been previously considered in stereotype

content research. The full set of groups is presented in Table A.2, in Appendix A.

Procedure. Participants were randomly assigned to view one of fifteen sets of six

target groups. These sets were generated randomly, with the constraint that highly

similar groups (e.g., Black people and Black professionals) were not included in the same

set. Participants rated how each group is viewed by American society on five morality

traits, five sociability traits, and five competence traits. The traits were the same as those

used in Studies 1.1 and 1.2, except that one term from each dimension (*responsible, easy-

going,* and *effective*) was dropped to shorten the length of the study (these trait terms had

generally shown lower factor loadings than the other trait terms in Study 1.1).

Participants then rated how the group makes the typical American feel, on 29

emotion terms (see Table 5 for the 29 emotion terms and factor loadings). Twenty-four

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of these emotion terms were drawn from Study 1.4 of Fiske et al. (2002), though I phrased them as nouns rather than adjectives. To these I added five new terms: *condescension, disdain*, *irritation, affection,* and *joy*. Responses to both the trait terms and the emotion terms were made on a nine-point Likert scale.

Results

Cluster Analysis. Composite morality, sociability, and competence scales were computed for each target by averaging the five relevant traits (αs > .70 in 98.8% of cases). For the purposes of this analysis, group-level means on these composite scales were used as data. In order to ensure that my results are easily comparable with previous research on the SCM, I followed the same two-step cluster analytic procedure used by Fiske et al. (1999; Fiske et al., 2002), who drew their procedure from Hair, Anderson, Tatham, and Black (1995); hierarchical cluster analysis using Ward's (1963) method was used to determine how many clusters to retain, and k-means cluster analysis was then used to assign target groups to clusters. Five clusters were retained; cluster memberships are presented in Table A.2 in Appendix A.

Cluster 1 was characterized by high sociability ($M = 5.37$) but lower morality ($M = 4.08$), $p = .002$, within-subjects $d = .87$, and competence ($M = 4.05$), $p < .001$, $d = 1.17$ (morality and competence ratings did not differ from one another, $p = .91$, $d = .03$). It included such groups as salespeople and politicians – who may be seen as being warm and friendly, but disingenuous, untrustworthy, or duplicitous – and strippers and sexy women – who may be seen as extroverted (or at least, as lacking shyness) but questionable in their moral character. Conversely, Cluster 2 was characterized by higher

morality ($M = 6.67$) than sociability ($M = 5.41$), $p < .001$, $d = 1.37$, higher competence

($M = 7.42$) than morality, $p < .001$, $d = 1.12$, and higher competence than sociability, $p <$

.001, $d = 1.88$. This cluster included groups such as judges, firefighters, soldiers, doctors,

and librarians, who may be seen as having a certain seriousness or sternness (i.e., as not

"warm"), but as nonetheless being very moral. Cluster 2 also included Asians, a group

that is classified as competent but cold in the two-dimensional space of the SCM. In line

with research on anti-Asian stereotypes (Lin, Kwan, Cheung, & Fiske, 2005), the present

results suggest that the low perceived "warmth" of Asians was driven by a perception that

they are not sociable or outgoing, rather than by any mistrust of their morality, which was

rated rather highly (6.04 out of 9, compared with 4.58 for sociability). Groups in Cluster

3 were rated as quite low on all three dimensions, especially morality ($M = 2.20$), and

included such reviled groups as drug dealers, terrorists, and the poor. For this cluster,

sociability ratings ($M = 3.14$) were higher than morality ratings, $p = .009$, $d = 1.05$, as

were competence ratings ($M = 2.99$), $p = .02$, $d = .86$, but sociability and competence did

not differ from one another, $p = .74$, $d = .11$. Thus, while these disliked groups are

denigrated on all three dimensions, their morality is seen as especially dubious. In sum,

three out of five clusters showed greater morality than sociability, or vice versa, and

about half of the target groups ($n = 46$) fell into one of these three clusters, thereby

providing further evidence that judgments of morality and sociability are distinct.

Cluster 4 included groups that were rated fairly high on all three dimensions

($M_{Morality} = 5.67$, $M_{Sociability} = 5.94$, $M_{Competence} = 5.86$; pairwise comparisons: all ps $> .12$,

ds $< .28$). It primarily included societal in-groups such as Christians, Whites, and the

middle class. Cluster 5 groups (e.g., *rich people*) were primarily characterized by high

competence (M = 5.46), and had higher competence than morality (M = 3.85) or

sociability (M = 3.95), ps < .001, ds > 1.47, which did not differ from one another, p =

.68, d =.12.

Within-group comparisons of morality, sociability, and competence. Using

participant-level data, I used paired-samples t-tests to compare the composite morality,

sociability, and competence ratings of each of the target groups. Consistent with my

theorizing, 78 out of 90 groups were judged to be significantly higher on one of these

dimensions than the other, ps < .05, ds > .29 (see Table A2). Seventy-five out of 90

differed significantly in their morality and competence, ps < .05, ds > .24, and 81 out of

90 differed significantly in their sociability and competence, ps < .05, ds > .26, thus

overwhelmingly supporting the distinctness of all three dimensions.

Factor analysis of emotion terms. I factor analyzed the group-level means for

the 29 emotion terms using Principal Component Analysis with Varimax rotation and

parallel analysis as the extraction method. Based on the parallel analysis, three factors

were retained. The first, "antipathy" factor consisted of emotion terms related to fear,

hatred, contempt, and similar negative emotions. The second, "admiration" factor

consisted of terms related to pride, respect, and more general positivity. The third,

"sympathy" factor consisted of the terms *sympathy, pity,* and *compassion.* A fourth

factor emerged with an eigenvalue of 1.33, consisting of the synonymous terms

"jealousy" and "envy". Although this eigenvalue was not larger than the randomly

generated eigenvalue derived via parallel analysis, I retained it (as "envy") because it was

clearly interpretable and consistent with prior theory. These four factors (antipathy,

admiration, sympathy, envy) resemble the four intergroup emotions in the SCM –

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contempt, admiration, pity, envy – with the major differences being that my antipathy factor is more strongly related to fear and anxiety than it is to contempt, and that my sympathy factor is more related to compassion and empathy than to pity. Factor loadings for the 29 emotion terms are presented in Table A.3.

Regressions predicting emotional reactions. I next used linear regressions to examine the roles that morality, sociability, and competence played individually and interactively in predicting the four emotion factors derived above. For each factor, I averaged each group's ratings on the emotion terms comprising that factor (reverse scoring in the one instance where it was necessary). I then treated this composite score as the outcome variable in a linear regression. For each regression, I entered mean-centered group-level morality, sociability, and competence ratings, their two-way interactions, and their three-way interaction as predictors. Standardized regression coefficients are presented in Table 1.4.

Antipathy was significantly negatively predicted by both morality and sociability, though morality was the stronger predictor. The fact that these two dimensions exerted independent effects provides additional evidence of their distinctness. This result is not predicted by two-dimensional theories, which treat morality and sociability as sub-components of a broader prosocial, "warmth" dimension. Competence did not significantly predict antipathy, nor was any interaction term significant.

Admiration was positively predicted by morality, sociability, and competence, thus revealing independent effects of all three dimensions. Morality was the strongest predictor, closely followed by sociability. These first-order effects were qualified by a

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significant two-way, morality-by-sociability interaction (see Figure A.1). Immoral groups received little admiration regardless of their sociability. Moral groups, on the other hand, received even greater admiration when they were also sociable. That is, sociability seems to contribute to group admiration mainly in the presence of morality. This interaction between morality and sociability provides further evidence of the independence of these two dimensions, since two variables can only interact if there is a substantial dissociation between them.

The best predictor of sympathy was competence; the less competent the group, the more sympathy it received. The only other significant predictor was morality; immoral groups received less sympathy than moral groups. Sociability did not predict sympathy, nor were any interaction terms significant. This suggests that prior results showing that pity is elicited by groups high in "warmth" but low in competence (Fiske et al., 2002) may have been driven by the groups' perceived high morality, which was conflated with the groups' sociability within assessments of "warmth" (though it should be kept in mind that my sympathy factor does not exactly overlap with pity in the SCM).

The best predictor of envy was competence; unsurprisingly, more competent groups were envied more than less competent groups (see Fiske et al., 2002). Both morality and sociability also predicted envy, but in opposite directions; envy was directed toward *less* moral groups but toward *more* sociable groups. This result poses a major challenge for two-dimensional theories, which assume that morality and sociability can be subsumed under a single broad, prosocial dimension. According to this assumption, morality and sociability should predict similar emotional responses once separated – a prediction that is clearly falsified in the present context. Moreover, there was a

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significant two-way, morality-by-sociability interaction (Figure A.2), just as there was for admiration. Highly moral groups appeared to be the targets of little envy regardless of their sociability (i.e., highly moral groups are admired, not envied). However, immoral groups were envied more when they were also sociable, perhaps because of a belief that their sociability brings them benefits that they do not deserve (e.g., a warm but immoral politician or businessman may be envied for achieving social status without playing by the rules).

Discussion

Study 1.4 indicated the utility of separating morality and sociability when accounting for the stereotypes of real social groups, and showed that morality and sociability predict different emotional responses towards those groups. The vast majority of groups (approximately 87%) were rated significantly differently in terms of their morality and sociability. Emotional responses towards these groups, including antipathy, admiration, envy, and sympathy, were predicted in clearly different ways by morality and sociability. In increasing order of evidential significance: these two dimensions exerted statistically independent predictive effects for all four emotions (in the case of sympathy, only morality was predictive); they exerted interactive effects for admiration and envy; and they exerted entirely opposite effects for envy. All of these results are difficult to explain on the view that morality and sociability are slightly different aspects of the same evaluative dimension, and are better accounted for by the view that morality and sociability are, in fact, separate dimensions of social cognition.

General Discussion

I have proposed that morality, sociability and competence are distinct dimensions that underlie basic person and group perception processes. Each of these dimensions conveys distinct social-functional information. A person's moral character reveals the true nature of their intentions towards you (e.g., whether or not they will act with your welfare in mind). A person's sociability reveals how likely they are to be able to recruit allies to support them in pursuing their intentions (Ashton et al., 2002), and thus, how desirable they might be as a potential ally, or how formidable they might be as a potential foe. And, a person's competence yields information about how effectively that person will carry out their goals and intentions.

My findings are much better accounted for by models that include at least these three dimensions of social cognition than by current two-dimensional models which stress only warmth and competence. In Studies 1.1-1.3, factor analyses of participants' ratings of real individuals and social groups consistently revealed three factors underlying their ratings, corresponding to the hypothesized dimensions of morality, sociability, and competence. The third factor in each analysis explained a non-trivial amount of variance. Most critically, morality and sociability terms did not load together on a composite prosocial, "warmth" factor, as current two-dimensional models would predict. In Study 1.4, morality and sociability again diverged: in judgments of the stereotypic traits of large number of social groups, and in predicting emotional responses to those groups. In the most theoretically pertinent cases, morality and sociability interacted to predict admiration and envy, and they predicted envy in *opposite* directions.

Relation to Past Research

One might be skeptical of my theorizing because prior research seems so consistently to have supported existing two-dimensional models. However, the strength of the prior evidence in favor of two-dimensional models is arguably not as clear as it is often presumed to be. Much existing research does not explicitly set out to test two-dimensional models, but rather assumes a two-dimensional framework as a starting point, then examines its consequences in a novel domain of social cognition. I suspect that assuming a two-dimensional framework as a starting point may have led to experimental designs and stimuli choices that increase the likelihood that observed results will apparently accord with a two-dimensional framework. For instance, most research within the two-dimensional tradition has included a relatively limited range of warmth and competence trait terms that accord only with the two postulated dimensions (e.g., Abele & Wojciszke, 2007; Clausell & Fiske, 2005; Fiske et al., 1999, 2002; Leach et al., 2008). As a result, these studies have tended to lack a thorough coverage (and careful division) of both morality and sociability traits. Thus, despite the assertion that "warmth and competence dimensions emerge consistently" (Fiske et al., 2007, p. 77), it is arguably more accurate to say that the warmth and competence dimensions were *imposed* upon many prior studies, rather than emerged from them.

Research by Brycz and Wojciszke (1992) provides auxiliary support for the distinctness of morality and sociability information. In this study, participants were presented with positive and negative information about a target person's sociability or morality. Their overall evaluation of the target person based on incongruent sociability information was positive, whereas their overall evaluation of the person based on incongruent morality information was negative. When participants were then presented

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with additional positive information, judgments in the sociability condition quickly shifted to align with this new information (i.e., becoming increasingly positive), whereas judgments in the morality condition shifted more slowly, showing an entrenched negativity bias. These findings therefore show that people process information about sociability quite differently from information about morality.

Theoretical Contributions and Future Directions

My work builds upon recent research on the distinct roles that morality, sociability, and competence play in person and group perception. Most of this work has focused on the relatively greater role that morality as opposed to warmth/sociability information has on impression formation both at the individual (Brambilla, Rusconi et al., 2011; Brambilla et al., 2013; Goodwin et al., 2014) and group level (Brambilla et al., 2012; Leach et al., 2007). While some of this prior research has distinguished between morality and sociability, prior investigations have not specifically focused on whether morality and sociability should be conceived as separate dimensions of social cognition, as opposed to sub-components of a single overarching prosocial dimension ("warmth"), alongside competence. Hence, the primary contribution of the present work is to demonstrate comprehensively that morality and sociability do not together comprise one dimension of evaluation in naturalistic judgments, and that each dimension plays an important and distinctive role in social cognitive judgments.

One potential criticism of my approach – which extends to the approach utilized by researchers within the two-dimensional tradition as well – is that I always selected the traits used, rather than having participants generate them. I therefore wanted to provide

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some assurance that people naturally attribute traits related to the postulated dimensions of morality, sociability, and competence when thinking about real social targets. Using an entirely bottom-up procedure, I had 75 American adults think of two different social groups, one group that American society has a positive view of, and another that American society has a negative view of. For each target group, participants nominated "one personality trait that American society typically associates" with the group. Morality traits (e.g., *moral, violent, generous, greedy, honest, trustworthy, kind, loyal, deceitful, brave*) were the most frequent, comprising 59.3% of the traits offered. Competence traits were the next most frequent (17.3%; e.g., *intelligent, ignorant, hardworking*), followed by sociability traits (10.7%; e.g., *happy, fun*). A substantial minority of participants (24.7%) offered unscorable responses or traits that were not dispositional, such as *rich*, *good-looking,* etc.[5] Thus, these results provide preliminary evidence that the traits employed in the present research are consistent with the kinds of traits people naturally generate in their appraisals of real targets (in this case, groups).

Morality, sociability, and competence may not represent the *only* fundamental dimensions of social cognition. The three dimensions that I have investigated here each convey information about different functionally important aspects of our social world, so there is some theoretical reason to think that these could constitute a "big three" of social perception. But I acknowledge that there are possibly other important social-functional needs that may map onto other important dimensions of social cognition. An even larger set of traits than the one I employed might result in a factor structure that extends beyond morality, sociability, and competence. However, this point does not detract from the

main thrust of the present research, which is to highlight morality and sociability, specifically, as independent dimensions of social cognition.

Conclusion

The four studies presented in this chapter provide support for the distinctness of morality, sociability, and competence as underlying dimensions of social cognition. These findings accord naturally with the theory that morality and sociability serve different social functions. I therefore view the present results as providing an important first step toward a richer model of social cognition that is psychologically more accurate, though admittedly less parsimonious, than current two-dimensional models.

Footnotes

[1] Throughout this dissertation, I distinguish morality from "sociability", rather than from "warmth." The term "sociability" is close in meaning to "warmth", but I prefer the term "sociability" because it is more precise (see below), and because it has been the term of choice in some recent theorizing (see e.g., Brambilla, Rusconi et al., 2011; Leach et al., 2007).

[2] My use of the term "prosocial" to denote this superordinate dimension is not intended to coincide with a technical use of the term "prosociality", which refers specifically to altruistic behavior. Rather, I intend a broader, everyday meaning, captured by the quote above by Fiske and colleagues, in which the term "prosocial" includes elements of both sociability and morality. This more everyday sense of prosocial has an antonymic relation to the everyday sense of the term "antisocial", which sometimes refers to a lack of sociability, but other times, to a lack of morality (see "Antisocial", n.d.).

[3] The results of the factor analyses in Studies 1.1-1.3 do not change appreciably when an oblique rotation (direct oblimin) is applied instead.

[4] "Responsible" loaded slightly higher on the competence factor (.55) than the morality factor (.51) for the disrespected target. This was the only instance in which a term did not load most highly on its hypothesized factor.

[5] Some responses resembled the "blended" traits in Study 1.3, in that they contained elements of more than one dimension. These were counted as instantiating both dimensions, which is why the sum of the presented percentages is slightly higher than 100%.

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Table 1.1. Means and standard deviations of composite morality, sociability, and competence scales for each target in Study 1.1.

	Morality	**Sociability**	**Competence**
Respected Target	7.84 (1.06)$_a$	6.89 (1.37)$_b$	7.85 (1.00)$_a$
Liked Target	7.45 (1.21)$_a$	7.26 (1.21)$_b$	7.41 (1.19)$_a$
Disliked Target	3.23 (1.68)$_a$	4.58 (1.80)$_b$	4.30 (1.82)$_c$
Disrespected Target	3.16 (1.59)$_a$	4.70 (1.82)$_b$	4.26 (1.86)$_c$
Parent/Parental Figure	7.30 (1.54)$_a$	6.51 (1.51)$_b$	7.03 (1.51)$_c$
Teacher/Mentor	7.74 (1.16)$_a$	6.87 (1.38)$_b$	7.88 (1.07)$_c$

Note. Within rows, cells with no common subscript differ significantly, $p < .05$.

Table 1.2. Means and standard deviations of composite morality, sociability, and competence scales for each group in Study 1.2.

	Morality	Sociability	Competence
Respected Group	7.32 (1.34)$_a$	5.84 (1.52)$_b$	7.53 (1.28)$_c$
Liked Group	6.67 (1.59)$_a$	6.84 (1.28)$_b$	7.11 (1.47)$_c$
Disliked Group	2.87 (1.60)$_a$	3.79 (1.77)$_b$	4.10 (2.03)$_c$
Disrespected Group	2.53 (1.64)$_a$	3.68 (1.87)$_b$	3.33 (1.93)$_c$
Admired Group	6.77 (1.67)$_a$	6.35 (1.48)$_b$	7.57 (1.20)$_c$
Envied Group	4.81 (1.70)$_a$	5.62 (1.55)$_b$	6.88 (1.60)$_c$
Pitied Group	4.50 (1.91)$_a$	4.61 (1.65)$_a$	3.62 (1.83)$_b$
Contempt Group	2.85 (1.80)$_a$	3.84 (1.87)$_b$	4.17 (2.12)$_c$
Feared Group	2.77 (1.86)$_a$	3.06 (1.71)$_b$	4.26 (2.04)$_c$

Note. Within rows, cells with no common subscript differ significantly, $p < .05$.

Table 1.3. Trait terms from Study 1.3, theoretical categories based on the pre-study, and frequencies with which each trait loaded most highly on each factor.

Trait	Hypothesized Category	Morality	Sociability	Competence
Moral	Morality	8	0	0
Honest	Morality	8	0	0
Fair	Morality	8	0	0
Sociable	Sociability	0	8	0
Friendly	Sociability	2	6	0
Extroverted	Sociability	0	8	0
Competent	Competence	0	0	8
Effective	Competence	0	0	8
Talented	Competence	0	0	8
Humble	Morality/Sociability	8	0	0
Respectful	Morality/Sociability	8	0	0
Compassionate	Morality/Sociability	8	0	0
Principled	Morality/Competence	6	0	2
Responsible	Morality/Competence	2	0	6
Disciplined	Morality/Competence	0	0	8
Cooperative	Sociability/Competence	8	0	0
Enthusiastic	Sociability/Competence	0	8	0
Dynamic	Sociability/Competence	0	7	1

Table 1.4. Standardized regression coefficients (beta weights) predicting group-level antipathy, admiration, sympathy, and envy ratings in Study 1.4.

	Antipathy	Admiration	Sympathy	Envy
Morality	-.72***	.51***	.93***	-.64***
Sociability	-.26**	.41***	.04	.42***
Competence	.10	.25***	-1.03***	.88***
Morality x Sociability	.18	.22*	-.16	-.32*
Morality x Competence	-.04	.10	.03	-.06
Sociability x Competence	-.09	-.15	.26	.10
Morality x Sociability x Competence	-.03	-.03	.20	-.25

*$p < .05$

**$p < .01$

***$p < .001$

THE DESIRABILITY OF SOCIABILITY AND COMPETENCE DEPENDS ON MORALITY

As discussed at length in Chapter 1, social cognition researchers have posited that there are two "fundamental dimensions" along which we categorize other people (Abele, Cuddy, Judd, & Yzerbyt, 2008; Fiske, 2012; Fiske, Cuddy & Glick, 2007; Judd, James-Hawkins, Yzerbyt, & Kashima, 2005). The dimension of warmth is an assessment of how a person interacts with others, while the dimension of competence is an assessment of a person's ability to accomplish tasks effectively. One attractive feature of this line of theorizing is that it accounts for why these dimensions are so important to social judgment from a functionalist standpoint (Fiske et al., 2007). Each dimension is said to convey distinct, functionally important information: warmth is said to convey information about a person's intentions (is the person benevolent or hostile?), while competence is said to convey information about a person's ability to carry out their intentions successfully.

Recently, it has been noted that the dimension of warmth seems to conflate two distinct aspects of a person: morality – exemplified by traits like honesty, fairness, and sincerity – and sociability – exemplified by traits like friendliness, extroversion, and playfulness (Bauman & Skitka, 2012; Brambilla, Rusconi, Sacchi, & Cherubini, 2011; Brambilla, Sacchi, Rusconi, Cherubini, & Yzerbyt, 2012; Goodwin, Piazza, & Rozin, 2014; Leach, Ellemers, & Barreto, 2007). Morality plays a more important role than sociability in determining impressions of others (Goodwin et al., 2014), and ratings of morality and sociability in judgments of real individuals do not cohere (see Chapter 1), providing evidence that these are best thought of as separate dimensions of social cognition, alongside competence.

What, then, becomes of the functionalist account of why warmth and competence are so important? As argued in Chapter 1, morality, sociability, and competence do each make distinct contributions to social cognition. In my model, morality indicates whether a person's intentions are likely to be positive or negative toward us – that is, morality has the same function ascribed to warmth in two-dimensional models of social judgment. Competence indicates whether the person is likely to accomplish what they intend to do, just as in existing two-dimensional models. Sociability, however, has a different role – it indicates whether a person is likely to be able to recruit allies to support and help accomplish their intentions, whether or not those intentions are positive or negative. In this way, each kind of information conveys something unique and functionally important about others in our social worlds.

Sociability and competence, therefore, both contribute to one's ability to accomplish one's goals, though in different ways. This straightforwardly leads to the following predictions: morality should always be desirable in others, because it is always better for us if others have positive rather than negative intentions toward us. However, sociability and competence should be desired *contingent upon morality*. That is, if a person is able to fulfill their goals themselves and/or recruit allies to help them do so, that is only beneficial for us if their goals are positive. Therefore, I predicted that morality would be highly desired, regardless of a target's other qualities, and competence and sociability would be highly desired in moral others, but less desired in immoral others. In this chapter, I test these two related hypotheses across five studies.

This theorizing extends upon earlier research that has partially explored the contingent desirability of competence (though not sociability). For instance, Peeters

(1992) found that people preferred their friends to possess what I would call competence traits (e.g., industrious, quick, practical), but preferred their enemies to lack these traits. However, participants preferred that both their friends and their enemies possess moral traits (e.g., trustworthy, tolerant, conciliatory). In another relevant study, Wojciszke, Bazinska, and Jaworski (1998, Study 4) found that impressions of targets with immoral goals were always low, but were especially low when the immoral target exhibited high competence. Similarly, impressions of targets with moral goals were always positive, but were more positive when the targets were also competent. These results are consistent with my theorizing regarding the functional role of competence. However, in this study, the manipulation of competence also manipulated whether or not the target actually succeeded in fulfilling his or her goal or not. For example, one description of a moral and competent target read, "Although himself in a hurry, Andrew stopped on his way seeing a helpless woman; he right away found what was wrong with her car and got it going using an ingenious trick." The information about the target's competence ("he right away found what was wrong with her car and got it going using an ingenious trick") is confounded with the actual outcome of the scenario (he "got it going", thereby producing a beneficial outcome). This description contrasted with the descriptions of moral, yet incompetent targets, who failed to produce beneficial outcomes. It is therefore unclear in this study whether competent, moral targets were liked more than incompetent, moral targets because of their competence, *per se,* or because of the more positive outcomes that they actually produced in the world. Therefore, to test for the contingent role of competence more stringently, in Studies 2.1 and 2.2 I did not mention specific moral or immoral goals at all, but provided morality information using personality trait

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terms; in Study 2.3, I used scenarios similar to Wojciszke et al.'s, but left the actual outcome unstated so as to deconfound it from my manipulation of competence; and in Studies 2.4 and 2.5, I used scenarios that did not focus on a specific attempted action, but rather provided overall characterological profiles of the target person. In all five studies, I also extended this contingency hypothesis to sociability, which has only recently been theoretically and empirically separated from morality.

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Study 2.1

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In Study 2.1, participants were given information about either a person's sociability or competence, or about their morality, and then directly reported whether they would prefer the person to be high or low on traits relating to the dimension about which they received no information. I predicted an interaction such that participants would always prefer people to possess high morality, regardless of their sociability or competence, but would only prefer that people possess high sociability or competence when they were also moral.

Method

Participants. One hundred-thirteen undergraduates (70 female) were recruited through the University of Pennsylvania subject pool to complete an online study for partial course credit.

Procedure. The study was conducted entirely online. After consenting to participate, participants were told that, "on the following pages, we will present you with descriptions of one aspect of a person's personality, and ask for your preference regarding another aspect of their personality, given this information. For instance, a question might read, 'Suppose that an acquaintance of yours has a reputation for being an EMOTIONAL

person. Would you prefer that person to be OPTIMISTIC or PESSIMISTIC?'" This

example question was followed by a nine-point Likert scale anchored by "Strongly prefer

OPTIMISTIC" and "Strongly prefer PESSIMISTIC," with the midpoint labeled "I would

be indifferent." A brief explanation of the scale was also provided. This example

question accurately reflected the format of the questions in the study, but included trait

terms that do not strongly relate to any of the three dimensions of judgment that I was

interested in.

After reading the instructions and example question, participants were presented

with 128 questions of the same form that included morality, sociability, and competence

terms. For each question, a morality trait was paired with either a sociability or a

competence trait.   Thus, one variable in the design was the nature of that non-moral trait

(sociability or competence).   A second variable was whether the moral trait was

presented first as given information, followed by a question about participants'

preference for the non-moral trait in question; or alternatively, whether the non-moral

trait was given, followed by a question about participants' preference for the moral

trait. Thus, if the moral trait was given, the question might be (e.g., in the sociability

condition): knowing that the person is moral, would you prefer that they be sociable or

unsociable?   Whereas, if the non-moral trait was given, the question might be (e.g., in

the sociability condition): knowing that the person is sociable, would you prefer that they

be moral or immoral? Finally, the third variable in the design was the valence of the

given trait, i.e., whether the given trait was high or low on the dimension of interest (e.g.,

moral or immoral; sociable or unsociable; competent or incompetent). Thus, the study

had a 2 (Non-Morality Trait: sociability versus competence) by 2 (Given Trait: morality

versus non-morality) by 2 (Level of Given Trait: high versus low) fully within-subjects design (see Figure 2.1 for a schematic depiction of the design).

There were 16 replications in each cell of the design, created by pairing four trait terms related to each dimension. The morality terms were *honest/dishonest, trustworthy/untrustworthy, moral/immoral,* and *principled/unprincipled,* the sociability terms were *warm/cold, sociable/unsociable, friendly/unfriendly,* and *extroverted/introverted,* and the competence terms were *capable/incapable, intelligent/unintelligent, competent/incompetent,* and *skillful/unskillful.* These terms were chosen on the basis of prior research demonstrating their relevance to the dimensions of interest (Chapter 1; Goodwin et al., 2014).

Accordingly, one question in the sociability/non-morality/low condition read, "Suppose that an acquaintance of yours has a reputation for being an UNFRIENDLY person. Would you prefer that person to be TRUSTWORTHY or UNTRUSTWORTHY?" The order in which the 128 questions were presented was randomized for each participant. After every 32 questions, a notification appeared that read "You have now completed XX% of the survey. Thank you for your continued attention." This was included to break up the monotony of the task, and to periodically refocus participants' attention. I also counterbalanced, between-subjects, whether the high-trait or low-trait terms appeared first in the question and on the response scale.

After completing the 128 questions, participants responded to a brief demographics questionnaire, then were debriefed and thanked. I predicted a two-way interaction between Given Trait and Level of Given Trait, such that morality would

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always be preferred, regardless of a target's sociability or competence, but sociability and competence would be preferred only in moral targets.

Results

   Preliminary Analyses. The between-subjects manipulation of the order in which the high- and low-trait terms appeared showed no significant main effects or interactions, ps > .14, η^2_ps < .02, so I collapsed across this manipulation for all subsequent analyses. Moreover, the replications in each of the eight cells of the design all showed good internal reliability, αs > .93, so I averaged across the sixteen questions in each cell to produce one data point per within-subjects condition per participant.

   Within-Subjects Analyses. Means and standard deviations for each condition are presented in Table 2.1. I conducted a 2 (Non-Morality Trait) by 2 (Given Trait) by 2 (Level of Given Trait) repeated measures analysis of variance (ANOVA). As expected, the critical Given Trait x Level of Given Trait interaction was found, $F(1, 112) = 138.96$, $p < .001$, $\eta^2_p = .55$. In both the sociability and competence conditions, people preferred an acquaintance to be moral, regardless of whether that person was sociable or competent, and preferred that an acquaintance be sociable and competent, given that that person was moral. But, if an acquaintance was immoral, participants showed a dramatic reversal in their judgments, preferring the other to be unsociable and incompetent. All condition means differed significantly from the scale midpoint, ts(112) > 5.27, ps < .001, which indicates that people were not merely indifferent in the conditions with immoral targets, but actually preferred immoral others to be at least somewhat unsociable and incompetent. This interaction was also observed in separate 2 (Given Trait) by 2 (Level of Given Trait) ANOVAs that examined the sociability and competence conditions

separately (sociability condition: $F(1,112) = 102.12$, $p < .001$, $\eta^2_p = .48$; competence condition: $F(1, 112) = 172.99$, $p < .001$, $\eta^2_p = .54$), and was therefore not driven by only one of these conditions. The pattern of means is presented in Figure 2.2.

Returning to the main analysis, I also found a main effect of Given Trait (morality versus non-morality), $F(1, 112) = 199.33$, $p < .001$, $\eta^2_p = .64$, which reflected the fact that preferences for the non-given trait were, on average, lower in the morality condition than the non-morality condition. This appears to be driven by the very low desirability of sociability and competence in immoral targets – or, to put it another way, by the overall greater and non-contingent desirability of morality. There was also a main effect of Level of Given Trait (high versus low), $F(1, 112) = 325.29$, $p < .001$, $\eta^2_p = .74$, which reflects the fact that preferences for the non-given trait were, on average, lower when the target was low in the given trait. This is, again, primarily driven by the conditions with immoral targets (see Figure 2). No main effect of Non-Morality Trait (sociability versus competence) was observed, $F(1,112) = .08$, $p = .78$, $\eta^2_p = .001$.

I also observed a marginally significant interaction between Given Trait and Non-Morality Trait, $F(1,112) = 2.78$, $p = .098$, $\eta^2_p = .02$. This interaction is difficult to interpret, but the effect size indicates that it is much smaller than the other effects that I observed, so I consider this to be an unimportant byproduct of the high statistical power of this study. There was also a significant interaction between Level of Given Trait and Non-Morality Trait, $F(1,112) = 20.46$, $p < .001$, $\eta^2_p = .15$. This indicates that for targets low in the given trait, preference ratings tended to be slightly lower in the competence condition than in the sociability condition (*M*s 5.08 and 5.37, respectively), whereas for targets high in the given trait, they tended to be slightly higher in the competence

condition than in the sociability condition (Ms 7.68 and 7.42, respectively). This seems to be driven by the fact that the predicted interactive effect was slightly stronger in the competence condition than the sociability condition (see the effect sizes on the separate ANOVAs above). Finally, I observed a significant three-way interaction, $F(1, 112) = 21.19$, $p < .001$, $\eta^2_p = .16$, reflecting the stronger two-way interaction in the competence condition. These additional main effects and interactions do not undermine the strength of my predicted interaction between Given Trait and Level of Given Trait.

Participant-Level Analysis. In order to probe the robustness of my result, I investigated how many individual participants showed the predicted pattern of results in their responses. As a conservative test, I required that a participant's average responses be below the scale midpoint for both low-morality targets, and above the midpoint for all six other targets – that is, it was not sufficient that a participant's responses to the low-morality targets were lower than their other responses, they had to be on the negative side of the scale. Fifty-one out of 113 participants showed exactly this pattern of responses. Treating a participant's responses to each of the eight conditions as independent events with an equal probability of falling above or below the midpoint, the probability of a participant showing exactly the predicted pattern by chance is equal to $.5^8 = 1/256 = .00390625$. Treating each participant as a discrete event with two possible outcomes (match predicted pattern with probability $.5^8$, or not, with probability $1-.5^8$), a binomial test shows that it is extremely unlikely that at least 51 participants showed exactly the predicted pattern of responses by chance, $p << .001$. Similarly, when examining the sociability and competence conditions separately, the probability of a single participant showing the predicted pattern by chance is $.5^4 = 1/16 = .0625$. Sixty participants showed

exactly the predicted pattern of responses in the sociability condition, and 66 in the

competence condition. Binomial tests show once again that the number of participants

showing these predicted patterns is extremely unlikely to be due to chance, *p*s << .001.

Not only did my predicted pattern of results obtain at the aggregate level, but a large

proportion of the sample showed exactly the pattern of responses that I predicted.

Discussion

The results of this study strongly support my hypotheses. Moral traits were

always seen as desirable in another person, regardless of their sociability or competence.

However, high-sociability traits such as *friendly* and high-competence traits such as

intelligent, which at first glance may appear unambiguously positive, were, in fact, only

desired in another when the other was known to be moral. When the other was known to

be immoral, participants actually preferred that they *lack* these traits, at least to some

degree.

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Study 2.2

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In Study 2.1, I asked participants for their explicit preferences regarding other

peoples' personalities. One possible weakness of this design is that by asking for

preferences directly, I might be tapping people's *theories* regarding what they desire in

others, rather than how personality information actually influences their impressions of

others. Moreover, participants might also desire immoral targets to be unsociable and

incompetent owing to justice considerations, rather than because these trait dimensions

increase a person's likelihood of goal attainment (my postulated mechanism).

Specifically, participants might think that an immoral person does not deserve the

benefits that come with being sociable and competent, and this could have driven their

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responses. Therefore, in Study 2.2, I did not ask participants for their preferences regarding others' personalities. Rather, I provided participants with information about a person's morality and their sociability or competence, and asked them how positive or negative their overall impression of the person was. I predicted that, consistent with Study 2.1, the positivity of these impressions would depend on an interaction between morality and sociability or competence, such that sociability and competence would positively predict impressions in the presence of positive morality, but would predict them less positively in the presence of negative morality.

Method

  Participants. One hundred undergraduates were recruited through the University of Pennsylvania subject pool to complete an online study for partial course credit. One did not complete the whole study, leaving a final sample of $N = 99$ (61 female).

  Procedure. After consenting to participate, participants read that "On the following pages, we will present you with descriptions of two aspects of a person's personality, and ask for your overall impression of the person, given this information." They were instructed to "take a moment to imagine clearly what a person who fits the given description would be like. Think about how they would act, and what it would be like to interact with them." They were then presented with an example question, which read "What is your overall impression of someone who has the following characteristics: The person is EMOTIONAL and OPTIMISTIC. My overall impression is…", followed by a nine-point Likert scale ranging from "Extremely negative" to "Extremely positive". As in Study 2.1, this example question accurately reflected how the questions in the study were formatted, but did not include traits related to the three dimensions of interest.

After reading the instructions, participants were presented with 128 questions of this form, constituting a 2 (Level of Morality: high versus low) by 2 (Level of Non-Morality Trait: high versus low) by 2 (Non-Morality Trait: sociability versus competence) fully within-subjects design with 16 replications in each cell. These replications were formed by pairing the morality terms with the competence and sociability terms from Study 2.1. The order of the questions was randomized for each participant, and I also counterbalanced whether the response scale ranged from "Extremely negative" to "Extremely positive", or vice versa. After responding to all 128 questions, participants responded to a brief demographics questionnaire, and were debriefed and thanked. I predicted a two-way interaction between Level of Morality and Level of Non-Morality Trait, such that sociability and competence would have a larger positive effect on overall impressions of moral targets than immoral targets – that is, the effects of sociability and competence on overall impressions should be dependent on the target's morality.

Results

Preliminary analyses. Responses were scored such that higher numbers indicate more positive impressions of the target. The between-subjects counterbalancing of the response scale had no main effect, $F(1, 97) = 2.94$, $p = .089$, $\eta^2_p = .029$, and it did not interact with the other variables aside from a small, difficult-to-interpret four-way interaction with all three within-subjects variables, $F(1,97) = 4.12$, $p = .045$, $\eta^2_p = .041$. Although this interaction is small, I nonetheless control for this between-subjects manipulation in all subsequent analyses.

Within-subjects analyses. Means and standard deviations for all conditions are presented in Table 2.2. As can be seen in Figure 2.3, in both the sociability and competence conditions, impressions of moral targets were always positive and impressions of immoral targets were always negative. As the Figure also shows, the impressions of sociable and competent targets were more complex, and contingent upon morality – impressions of sociable and competent targets were positive only when the target was also moral, and negative otherwise; similarly, impressions of unsociable and incompetent targets were positive if the target was also moral (and negative otherwise). Moreover, as expected, I observed the critical interaction between Level of Morality and Level of Non-Morality Trait, $F(1, 97) = 123.82$, $p < .001$, $\eta^2_p = .56$. While positive sociability and competence made large positive contributions to impressions of moral targets (mean difference: 2.25 scale points), they made smaller contributions to impressions of immoral targets (mean difference: 1.27 scale points). In other words, the "boost" one received from being sociable or competent was considerably greater for moral individuals than for immoral individuals. This interaction was also found in separate 2x2 ANOVAs for the sociability condition, $F(1, 97) = 158.31$, $p < .001$, $\eta^2_p = .62$, and the competence condition, $F(1, 97) = 56.88$, $p < .001$, $\eta^2_p = .37$.

Returning to the main analysis, I also unsurprisingly found main effects of both Valence of Morality, $F(1, 97) = 770.67$, $p < .001$, $\eta^2_p = .89$, and Valence of Non-Morality Trait, $F(1, 97) = 409.36$, $p < .001$, $\eta^2_p = .81$, indicating that, on average, morality, sociability, and competence all contributed positively to global impressions. No main effect of Non-Morality Trait was observed, $F(1, 97) = .013$, $p = .91$, $\eta^2_p < .001$. No other two-way interactions were significant, $ps > .13$, $\eta^2_ps < .024$, but the three-way interaction

was, $F(1, 97) = 14.54$, $p < .001$, $\eta^2_p = .13$. This reflects the fact that the critical two-way interaction was stronger in the sociability condition than in the competence condition (see effect sizes in above analysis).

Discussion

The contingency of sociability and competence information was observed in two distinct ways. Overall impressions of moral targets were always positive, and overall impressions of immoral targets were always negative. In contrast, targets who were high in sociability or competence were evaluated positively if they were also were high in morality, but not if they were low in morality. Thus, while high morality produced positive overall impressions irrespective of other traits, sociability and competence did so only for moral targets. This provides the first piece of evidence for the greater contingency of sociability and competence. Second, and most importantly, the positive contributions of sociability and competence were much smaller for immoral targets than for moral targets. Sociability and competence were not valued anywhere near as much when possessed by immoral people (though they were still seen slightly more positively than unsociability and incompetence). I did not observe the full reversal found in Study 2.1 – that is, the effects of sociability and competence on impressions of immoral targets were still positive, but they were smaller than the analogous effects for moral targets. Nonetheless, the effects of sociability and competence were still highly dependent on a target's morality, whereas morality always produced positive impressions, and immorality always produced negative impressions.

Study 2.3

Studies 2.1 and 2.2 clearly support my hypothesis that morality traits are generally seen as unambiguously desirable and positive, whereas the desirability and positivity of sociability and competence traits is contingent upon moral factors. Studies 2.1 and 2.2 showed this using abstract trait terms, but what about cases where a person's morality must be inferred from his or her actions? Presumably, in the real world, we often obtain information about a person's moral character by observing their actions. Therefore, in Study 2.3, I sought to replicate the results of Study 2.2 using fictional scenarios in which a person's morality was indicated by their motivations and behaviors, rather than by abstract personality trait terms. I also sought to show that my prior results would replicate in a more diverse sample than the university undergraduates who participated in Studies 2.1 and 2.2. Lastly, I included a question about the likelihood that the target would successfully carry out his or her goal (which was either moral or immoral) to see if this would mediate the interactive effect of morality and sociability/competence on impressions.

Method

Participants. Six hundred sixty-three participants were recruited online through Amazon's Mechanical Turk service in exchange for monetary compensation. Sixteen failed a "Captcha" question, strongly suggesting that they were automated "bot" programs, and seven more failed to complete the study, leaving a final sample of $N = 640$ (197 female).

Method. After consenting to participate, participants were randomly assigned to one cell of a 2 (Level of Morality: high versus low) by 2 (Level of Non-Morality Trait: high versus low) by 2 (Non-Morality Trait: Sociability versus Competence) between-

subjects design. This design is exactly analogous to that of Study 2.2, except that it is

between-subjects rather than within-subjects. In each condition, participants read five

scenarios about a person attempting to accomplish a goal. The person's goals were either

moral or immoral, depending on condition, but were written to be as similar in content as

possible. The immoral (moral) versions of the scenarios described a woman who wants

to get a very capable coworker fired for making her look bad (wants to get a very capable

coworker a raise), a con artist (spy) who tries to con an innocent man (warlord) out of his

money to keep it for himself (to prevent the warlord from using it to harm civilians), a

drug dealer (federal agent) who attempts to smuggle drugs across a border to sell them

and make money (to establish a cover and infiltrate a drug cartel), a vice president at a

toy company who thinks that the company should not (should) recall a toy that has been

found to be poisonous, and a "black hat" ("white hat") hacker attempting to break into a

bank's computer system to steal from the bank (to find vulnerabilities in the system and

help the bank fix them). Each scenario then provided information about the main

character's sociability or competence, depending upon condition.

For each scenario, participants responded to the main dependent variable, "How

negative or positive is your overall impression of [character's name]?", the proposed

mediator, "How likely do you think it is that [character's name] succeeded in [character's

goal]?", and a manipulation check, "How immoral or moral is [character's name]?" on

nine-point Likert scales. The order of the dependent variable and the mediator was

counterbalanced between-subjects, and the manipulation check was always presented

last. The order of the five scenarios was randomized for each participant. After

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responding to all five scenarios, participants completed a brief demographic

questionnaire and were debriefed, thanked, and paid.

Results

      Preliminary Analyses. The five dependent variable questions and mediator

questions both showed good internal reliability (α = .91 and α = .83, respectively), so I

averaged them together to create one composite dependent variable and one composite

mediator. The morality manipulation was successful – across the five scenarios, the

character was seen as more moral in the moral condition (M = 5.87, SD = 1.47) than in

the immoral condition (M = 2.36, SD = 1.17), ts(638) > 16.02, ps < .001, ds > 1.26. The

order of question presentation showed no main effect, $F(1, 624) = 2.81$ $p = .16$, $\eta^2_p =$

.003, and no significant interactions. I therefore collapsed across this variable in all

subsequent analyses.

      Main Analyses. Means and standard deviations for all conditions are presented in

Table 2.3. As illustrated in Figure 2.4, impressions of moral individuals were always

neutral-to-positive, while impressions of immoral individuals were always very negative.

As in Study 2.2, however, the impressions of sociable and unsociable targets were mixed

– impressions of sociable and competent targets were positive only when the target was

also moral (and negative otherwise), while impressions of unsociable and incompetent

targets were neutral if the target was moral, but negative otherwise. Moreover, as

predicted, the critical interaction between Valence of Morality and Valence of Non-

Morality Trait was significant, $F(1, 632) = 67.70$, $p < .001$, $\eta^2_p = .070$. This interaction

reflects the fact that high sociability or competence contributed positively to impressions

of moral individuals, but contributed much less to impressions of immoral individuals.

This interaction held in both the sociability condition, $F(1, 319) = 9.53$, $p = .002$, $\eta^2_p = .029$, and the competence condition, $F(1, 313) = 44.91$, $p < .001$, $\eta^2_p = .13$. These results replicate those found in Study 2.2.

Returning to the main analysis, there were main effects of Level of Morality, $F(1, 632) = 1397.25$, $p < .001$, $\eta^2_p = .69$, and Level of Non-Morality Trait, $F(1, 632) = 103.82$, $p < .001$, $\eta^2_p = .14$, and no main effect of Non-Morality Trait, $F(1, 632) = 2.58$, $p = .18$, $\eta^2_p = .003$. The two-way interactions between Level of Morality and Non-Morality Trait, $F(1, 632) = .43$, $p = .51$, $\eta^2_p = .001$, and between Level of Non-Morality Trait and Non-Morality Trait, $F(1, 632) = .99$, $p = .32$, $\eta^2_p = .002$, were not significant. The three-way interaction was significant, $F(1, 632) = 9.19$, $p = .011$, $\eta^2_p = .01$, reflecting the fact that the critical two-way interaction was stronger in the competence condition than in the sociability condition (see effect sizes above).

Moderated Mediation Analysis. As discussed in the Introduction, morality is, from a functionalist standpoint, an indicator of a person's positive or negative intentions, and competence is an indicator of a person's ability to carry out those intentions. Thus, it would be expected that a person's competence would positively predict the perceived likelihood that they will achieve their goals. This perceived likelihood of success, should, in turn, predict one's overall impressions of the person – that is, perceived likelihood of success should mediate overall impressions. However, the direction of this mediation – or at least, the size of the indirect effect – should depend on the person's morality. When a person is moral, the perceived likelihood that they will achieve their (praiseworthy) goals should positively predict overall impressions, but when a person is immoral, the perceived likelihood that they will achieve their (evil) goals should less

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positively predict overall impressions. In other words, a person's morality should moderate the mediated relationship between competence and overall impressions. Furthermore, as I have argued above, sociability provides information about whether a person is likely to be able to recruit allies to help them in pursuing their goals. The more effectively one can recruit allies, the more likely one is to achieve one's goals in the end. In this sense, sociability functions as a form of social competence, so the same moderated mediation would be expected for sociability as well. Figure 2.5 models this relationship conceptually. I tested these moderated mediation models using the PROCESS Macro for SPSS (Hayes, 2013), Model 14, with 10,000 bootstrap resamples for every analysis.

Table 2.4 presents the coefficients for each term in this analysis. The most important result in Table 2.4 is the significant interaction between morality and perceived likelihood of success (in both the sociability and competence conditions), which indicates that the former is moderating the effect of the latter on overall impressions. Furthermore, the indirect effect of sociability or competence on overall impressions through perceived likelihood of success was larger for moral targets than for immoral targets, in both the sociability condition ($b_{Moral} = .68$, $b_{Immoral} = .28$) and the competence condition ($b_{Moral} = 1.79$, $b_{Immoral} = .77$, and these differences across the levels of the moderator (morality) were statistically significant (Sociability Condition: Index of Moderated Mediation: .40, 95% Confidence Interval: [.04, .76]; Competence Condition: 1.02, 95% CI: [.63, 1.40]). In other words, the presence of sociability and competence always had a positive effect on overall impressions, and this was mediated through the perceived likelihood that the target would accomplish their goals. However, this relationship was moderated such that

it was substantially weaker for immoral targets than moral targets, consistent with my theorizing.

Discussion

Study 2.3 replicated the results of Study 2.2 using scenarios describing moral or immoral behaviors rather than abstract trait terms to convey targets' morality. Moreover, a conditional process analysis (Hayes, 2013) showed that the effects of sociability and competence on overall impressions are mediated through the perceived likelihood that a target will achieve his or her goals, but this mediation is moderated by the target's morality, such that the indirect effect is substantially smaller for immoral targets. In other words, sociability and competence increase the perceived likelihood that a person will achieve his or her goals, whether those goals are moral or immoral, but the effect of this perception on impressions depends on the person's moral character.

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Study 2.4

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Taken together, Studies 2.1-2.3 support my assertion that morality is always strongly desired in others, but sociability and competence are much less desired in immoral others than in moral others. In Study 2.1, I found that the desirability of sociability and competence was significantly below the scale midpoint – that is, these traits were at least somewhat *undesirable* in immoral people. However, in Studies 2.2 and 2.3, I found that sociability and competence still contributed positively to impressions of immoral others, though less positively than for moral others. This may have been because the descriptions of the immoral targets in Studies 2.2-2.2 were not especially potent (or extreme). That is, participants may have inferred that the targets were not *thoroughly* immoral, and therefore there might still be some benefit to them

being sociable and competent (e.g., especially when they were not acting immorally). Specifically, in Study 2.2, participants may have inferred that a target described as, for example, "untrustworthy" was not a pathological liar, but rather a more run-of-the-mill person prone to white lies. Similarly, in Study 2.3, participants may have inferred that the targets were doing immoral things in the given scenario, but may not have necessarily extrapolated that the targets were *generally* immoral, and therefore felt that there would still be some benefits to them being sociable and competent. To address this possibility, in Study 2.4, I provided a general, characterological description of a target who was extremely immoral, and asked participants how their impression of the target would change if they knew that he was sociable or unsociable, competent or incompetent. In this way, I kept participants' focus on their impressions, rather than what the target deserves (thus avoiding the justice explanation for the results of Study 2.1), while giving them a thoroughly immoral target of judgment (unlike Studies 2.2 and 2.3). I also included a condition in which the target was only somewhat immoral, to see if it produced results similar to the putatively immoral targets in Studies 2.2 and 2.3.

Method

      Participants. Two hundred-thirty participants were recruited through Amazon Mechanical Turk. Two failed a "Captcha" question, and three more did not complete the survey, leaving a final sample of $N = 225$ (37% female).

      Procedure. Participants were randomly assigned to one of three conditions: Very Immoral, Slightly Immoral, or Moral, and read a brief description of a fictional person that included three loosely related pieces of morality information about him. Specifically, the very immoral (slightly immoral) [moral] target, named "Mike," was

described as extremely dishonest (slightly dishonest) [extremely honest]; as having

completely fabricated sexual harassment charges to get a coworker fired for not

sufficiently respecting him (as having slightly exaggerated a coworker's slacking off to

get him fired for not pulling his weight) [as having tried to get a very effective coworker

a promotion]; and as having taken great pleasure in cheating on many previous girlfriends

(as having once cheated on a previous girlfriend, and regretting it) [as having never

cheated on a previous girlfriend, and being appalled at the very idea].

Participants then indicated how positive or negative their overall impression of

Mike was, on a 100-point sliding scale, as a manipulation check. They next indicated

how much more positive or negative their impression would be if they knew that Mike

possessed each of 18 different traits. These traits constituted a 3 (sociability traits versus

competence traits versus filler traits) by 2 (positive traits versus negative traits) design

with three replications in each cell. The traits were: *sociable, extroverted, friendly*

(positive sociability), *unsociable, introverted, unfriendly* (negative sociability),

competent, skillful, intelligent (positive competence), *incompetent, unskillful,*

unintelligent (negative competence), *emotional, adventurous, artistic* (positive filler),

unemotional, unadventurous, non-artistic (negative filler). The order of presentation of

the traits was randomized for each participant, and responses were made on nine-point

Likert scales ranging from -4 ("much more negative") to 4 ("much more positive"). The

filler traits were included to mask somewhat the aspects of personality that I was

specifically interested in, and were not included in my analyses. After responding to all

18 traits, participants answered a brief demographic questionnaire, and were debriefed,

thanked, and paid.

Results

     Preliminary analyses. The manipulation of morality was successful –

impressions of the very immoral target were extremely negative ($M = 10.05$, on a 0-100

scale, $SD = 17.55$), impressions of the slightly immoral target were somewhat negative

($M = 39.05$, $SD = 21.12$), and impressions of the moral target were quite positive ($M =$

86.74, $SD = 18.73$). All pairwise comparisons were significant, ts > 9.12, ps $< .001$, ds $>$

1.49.

     The three-trait scales of positive sociability, negative sociability, positive

competence, and negative competence all showed acceptable internal reliabilities, mean α

$= .77$, range: .58-.88. I therefore averaged responses to each three-item scale.

     Main analyses. Participants' responses to the questions about how their

impression of Mike would change, given that he exhibited a given trait, were subjected to

a 3 (Target: Very Immoral versus Slightly Immoral versus Moral) by 2 (Trait Type:

Sociability versus Competence) by 2 (Trait Valence: Positive versus Negative) mixed-

measures ANOVA with repeated measures on the last two factors. The critical

interaction between Target and Trait Valence was observed, $F(2, 222) = 20.56$, $p < .001$,

$\eta^2_p = .16$. Means and standard deviations for each condition are presented in Table 2.4,

and the pattern of means is graphed in Figure 2.6. As can be seen, unsociability and

incompetence always made impressions of a target more negative, but the effects of

sociability and competence depended on the target's morality. For the very immoral

target, positive sociability and competence both made impressions more negative, similar

to desirability ratings in Study 2.1; for the slightly immoral target, positive sociability and

competence both made impressions slightly more positive, similar to the impression

ratings in Studies 2.2 and 2.3; and, for the moral target, positive sociability and competence both made impressions even more positive. Thus, the difference between sociable and unsociable targets, and between competent and incompetent targets grew larger as the target become more moral. All means differed significantly from zero (i.e., no change in impression), $ts > 2.90$, $ps < .006$, $ds > .33$, except positive competence in the Very Immoral condition, the negative effect of which was marginally significant, $t(75) = 1.82$, $p = .073$, $d = .21$. Moreover, this critical interaction was observed in both the sociability condition, $F(2, 222) = 19.05$, $p < .001$, $\eta^2_p = .15$, and the competence condition, $F(2, 222) = 15.30$, $p < .001$, $\eta^2_p = .12$.

Returning to the main analysis, I also observed a main effect of Target, $F(2, 222) = 25.23$, $p < .001$, $\eta^2_p = .19$, reflecting the fact that mean changes in impression were most positive for the moral target, less positive for the slightly immoral target, and least positive for the very immoral target. I also observed a main effect of Trait Type, $F(1, 222) = 8.28$, $p = .004$, $\eta^2_p = .036$, reflecting a slightly more positive average impression change in the competence condition, and a main effect of Trait Valence, $F(1, 222) = 199.80$, $p < .001$, $\eta^2_p = .47$, reflecting the obvious fact that on average, positive terms produced more positive impressions, and negative terms produced more negative impressions. There was no significant interaction between Target and Trait Type, $F(2, 222) = 1.33$, $p = .27$, $\eta^2_p = .012$, but there was a significant interaction between Trait Type and Trait Valence, $F(1, 222) = 13.15$, $p < .001$, $\eta^2_p = .056$. This reflects the fact that there was a greater overall range in impression change in the competence condition than in the sociability condition, i.e., positive competence terms produced, on average, more positive impression change than did positive sociability terms, and negative

competence terms produced, on average, more negative impression change than negative sociability terms. No significant three-way interaction was observed, $F(2, 222) = 1.00$, $p = .37$, $\eta^2_p = .009$. As in the previous studies, these main effects and interactions are largely peripheral to my hypothesis, and do not undermine the strength of the critical Target x Trait Valence interaction.

Discussion

Sociability and competence are not only *more* positive in moral people than immoral people, but they can also have a *negative* effect on impressions of thoroughly immoral individuals. In the case of slightly immoral people, sociability and competence still exert positive effects, though not as strongly as they do for moral people. These results further underscore the contingency of these two dimensions of person perception. And they also elucidate the results of Studies 2.2 and 2.3: it seems that the "immoral" targets used in Studies 2.2 and 2.3 were psychologically closest to the slightly immoral target in Study 2.4, because in both cases the effects of sociability and competence were slightly positive.

The effects of positive sociability and competence did not mirror those of negative sociability or competence. Instead, learning that a target was unsociable or incompetent had a consistent negative effect on impressions. This means that, paradoxically, impressions of very immoral targets became less positive whether they were sociable or unsociable, competent or incompetent. Nonetheless, my focus here is on the ways in which positive sociability and competence interact with morality in impression formation, so I leave in-depth exploration of this result to future research.

Study 2.5

Studies 2.1-2.4 have shown that the desirability and positivity of sociability and competence are dependent upon a target's morality. However, it remains plausible that this is true of *any* trait – we simply prefer that immoral people lack traits that are generally desirable. As outlined above, I think that there are functional reasons why sociability and competence, specifically, should be contingent upon morality, but morality should always be seen as positive. Thus, in this final study, I set out to demonstrate that, unlike sociability and competence traits, morality traits would always contribute positively to impressions of others. Specifically, I manipulated what aspect of a target's morality participants received information about – his honesty or his kindness – then provided information about the other aspect of his morality, or about his sociability or competence. I expected sociability and competence to have little positive impact on impressions of an immoral target, but morality to have a larger positive impact, given that morality should always be desirable in others.

Method

Participants. Two hundred fifty-six participants were recruited online through Amazon's Mechanical Turk service in exchange for monetary compensation. Three failed a "Captcha" question, and three failed to complete the study, leaving a final sample of $N = 250$ (94 female).

Procedure. After consenting to participate, participants were randomly assigned to one cell of a two (Morality Information: Honesty versus Kindness) by two (Valence: Moral versus Immoral) between-subjects design. As in Study 2.4, participants were presented with a characterological description of a person. In the honesty condition, the person was described as either extremely honest or extremely dishonest, whereas in the

kindness condition, the person was described as either extremely kind or extremely

unkind. As in Study 2.4, participants rated their overall impression of the person, then

indicated whether their impression of the person would become more positive or negative

if the person strongly possessed each of 18 traits. The positive and negative sociability

and competence traits from Study 2.4 were used again here, but instead of the filler traits,

participants were presented with three positive morality traits and three negative morality

traits. In the honesty condition, these traits related to kindness (*kind, compassionate,*

caring, unkind, uncompassionate, uncaring), and in the kindness condition, they related

to honesty (*honest, trustworthy, sincere, dishonest, untrustworthy, insincere*). Thus, in

each condition, participants learned about one aspect of a target's moral character, then

indicated how their impressions of the target would change, given positive or negative

information about another aspect of his moral character. The order in which the 18 trait

terms were presented was randomized for each participant. After responding to all 18

traits, participants responded to a brief demographics questionnaire and were debriefed,

thanked, and paid.

Results

  Preliminary analyses. The three-trait scales of positive sociability, negative

sociability, positive competence, negative competence, positive morality, and negative

morality showed acceptable internal reliabilities, mean $\alpha = .79$, range: .55-.89. I averaged

responses to each three-item scale.

  The manipulation of target morality was successful; the moral target ($M = 90.86$,

$SD = 10.42$) elicited much more positive impressions than the immoral target ($M = 11.29$,

$SD = 17.19$).

The between-subjects manipulation of morality information (honesty versus kindness) showed no main effect or interactions with any other variable, $ps > .20$, $\eta^2_p s < .062$, so I collapsed across this variable in all subsequent analyses.

Main analyses. Participants' responses were analyzed using a 2 (Target: Immoral versus Moral) by 3 (Trait Type: Sociability versus Competence versus Morality) by 2 (Trait Valence: Positive versus Negative) mixed-measures ANOVA with repeated measures on the last two factors, similar to the analysis in Study 2.4. The expected three-way interaction was found, $F(2, 496) = 15.88$, $p < .001$, $\eta^2_p = .06$, indicating that the strength of the two-way interaction between Target and Trait Valence differed by Trait Type. As would be expected, this interaction was larger for morality traits ($F(1, 248) = 90.50$, $p < .001$, $\eta^2_p = .28$) than for sociability traits ($F(1, 248) = 40.91$, $p < .001$, $\eta^2_p = .14$) or competence traits ($F(1, 248) = 67.60$, $p < .001$, $\eta^2_p = .21$). Inspection of Table 2.5 and Figure 2.7 suggests that this is primarily driven by the positive morality cell in the Morality condition. Indeed, consistent with my predictions, positive sociability and competence information had no effect on participants' (very negative) impressions of the immoral target, $ts(122) < 1.48$, $ps > .14$, $ds < .14$, while positive morality information had a moderately strong positive effect on impressions of the immoral target, $t(122) = 4.67$, $p < .001$, $d = .44$.

Aside from the critical three-way interaction, I found main effects of Target, $F(1, 248) = 75.16$, $p < .001$, $\eta^2_p = .23$, Trait Type, $F(2, 496) = 17.10$, $p < .001$, $\eta^2_p = .07$, and Trait Valence, $F(1, 248) = 846.00$, $p < .001$, $\eta^2_p = .77$. I also found significant two-way interactions between Morality and Trait Type, $F(2, 496) = 8.97$, $p < .001$, $\eta^2_p = .04$, Morality and Trait Valence, $F(1, 248) = 93.34$, $p < .001$, $\eta^2_p = .27$, and Trait Type and

Trait Valence, $F(2, 496) = 171.38$, $p < .01$, $\eta^2_p = .41$. These effects are all qualified by the observed three-way interaction, however.

Discussion

Study 2.5 showed that positive information about one aspect of morality (honesty or kindness) improves impressions of people who are thoroughly lacking in other aspects of morality – specifically, positive information about an unkind person's honesty and about a dishonest person's kindness improved participants' impressions of them. However, positive information about a target's sociability or competence had no such effect. This indicates that the contingent effects of sociability and competence found throughout this chapter do not generalize to *any* sort of trait – morality, at least, is always positive, but sociability and competence are not.

General Discussion

Five studies showed that whereas the desirability of morality is unconditional, the desirability of sociability and competence in others is dependent on their morality. In Study 2.1, participants always preferred that another person be moral, regardless of their other characteristics. In contrast, they preferred only moral people to be sociable and competent, whereas they preferred immoral people to be at least somewhat unsociable and incompetent. In Study 2.2, I assessed overall impressions of others with various qualities and found that, once again, moral people were always seen positively regardless of their other traits, whereas sociable and competent people were only seen positively when they were also moral. Moreover, the positive effect of sociability and competence on impressions was considerably greater for moral targets than for immoral targets. Study 2.3 replicated these findings using descriptions of behavior rather than trait terms

to convey a target's morality. Study 2.3 also showed that the effect of sociability and competence on overall impressions is mediated through the perceived likelihood that the target will achieve their goals, and that the strength of this relationship is moderated by the target's morality (thus revealing its contingency on morality). In Study 2.4, I found that positive sociability and competence can actually have a *negative* effect on overall impressions (as opposed to an attenuated positive effect), when a person is extremely immoral. In Study 2.5, I provided further support for my claim that positive morality is always desirable by showing that positive morality information improves impressions of even thoroughly immoral people, whereas positive sociability and competence information do not. This indicates that the contingent effects of sociability and competence do not generalize to all types of traits.

These results are consistent with the functionalist account outlined above. Insofar as morality informs us about another's likely intentions toward us, we should always prefer that other people be moral, regardless of their other qualities: if another person has positive intentions toward us, rather than negative ones, this will produce better outcomes for us under nearly any circumstance. However, both competence and sociability inform us about the likelihood that a person will fulfill those intentions, though in different ways – competence informs us whether they are likely to fulfill their goals themselves, while sociability informs us whether they are likely to be able to recruit others to help them. Given that we should prefer that people with immoral intentions not fulfill them, we should consider sociability and competence to be less positive in such people, and perhaps even somewhat negative.

One unexpected result was that the strength of the predicted interaction sometimes differed between the sociability condition and the competence condition. The interaction was larger in the sociability condition in Study 2.2, but larger in the competence condition in Studies 2.1 and 2.3, and there was no significant difference in the size of this effect across conditions in Study 2.4 (though the effect was directionally larger in the sociability condition). Because I did not observe any consistent pattern, I suspect that any difference in the size of this effect across conditions is due to random variability. Neither competence nor sociability seems to be considered *more* dependent on morality with any consistency.

My results align with the findings of Wojciszke et al. (1998) and with prior theory regarding competence. They extend upon this work by showing that sociability, which has often been treated as part of the same superordinate dimension of judgment as morality, is actually thought about very differently from morality. Sociability is, in fact, only contingently desirable, because it depends on a person's morality. These results therefore offer further support for the claim that morality and sociability are separate dimensions of person perception, rather than highly related subcomponents of one superordinate dimension (e.g., Fiske et al., 2007; Fiske et al., 2002), as argued in Chapter 1. If both morality and sociability were components of the same dimension of judgment, one would expect them to be processed in similar ways when forming impressions of others. Yet my results consistently showed an interactive effect, whereby morality is always desired and seen as positive, but sociability is only desired in the presence of morality. This shows a striking divergence in how people use information about these qualities in others when forming impressions, and strongly suggests that they are not part

of the same dimension of evaluation in real judgments. Not only do they not cohere in judgments of others, they contribute in very different ways to such judgments.

More broadly, these results speak to the complexity of human social judgment. It is clear that additive linear models cannot fully capture the richness and contingencies of how we think about others in our social worlds. Instead, trait dimensions interact in quite subtle ways to produce overall impressions. However, my results also provide further evidence that one trait dimension in particular is primary: when it comes to forming impressions, and probably most of social cognition, morality information is dominant, and plays a large role in coloring how we interpret everything else.

Sociability Condition		Competence Condition	
Moral Person; *Preference for Sociability*	**Immoral Person;** *Preference for Sociability*	**Moral Person;** *Preference for Competence*	**Immoral Person;** *Preference for Competence*
Sociable Person; *Preference for Morality*	**Unsociable Person;** *Preference for Morality*	**Competent Person;** *Preference for Morality*	**Incompetent Person;** *Preference for Morality*

Figure 2.1. Summary of Study 2.1 Design. Information in **bold** was provided to

participants; dependent variables are presented in *italics*.

Table 2.1. Means and standard deviations in each condition of Study 2.1.

Non-Morality Trait	Given Trait	Level of Given Trait	Preference For… (DV)	M	SD
Sociability	Morality	High (Moral)	Sociability	2.07	1.29
		Low (Immoral)	Sociability	-0.84	1.70
	Sociability	High (Sociable)	Morality	2.76	1.22
		Low (Unsociable)	Morality	1.57	1.54
Competence	Morality	High (Moral)	Competence	2.46	1.27
		Low (Immoral)	Competence	-1.39	1.90
	Competence	High (Competent)	Morality	2.91	1.12
		Low (Incompetent)	Morality	1.54	1.65

Figure 2.2. Mean preference ratings in Study 2.1.

Table 2.2. Means and standard deviations for all conditions in Study 2.2.

Other Trait	Level of Morality	Level of Non-Morality Trait	*M*	*SD*
Sociability	High (Moral)	High (Sociable)	2.59	.98
		Low (Unsociable)	0.27	.95
	Low (Immoral)	High (Sociable)	-1.4	1.09
		Low (Unsociable)	-2.56	1.07
Competence	High (Moral)	High (Competent)	2.56	.93
		Low (Incompetent)	0.37	1.13
	Low (Immoral)	High (Competent)	-1.34	1.14
		Low (Incompetent)	-2.71	1.08
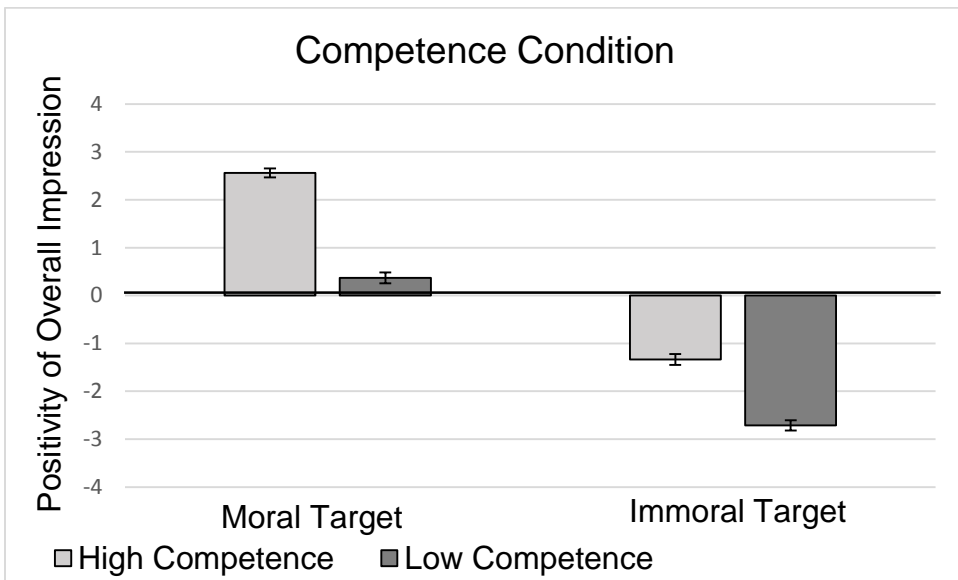
Figure 2.3. Positivity of overall impressions in Study 2.2.

Table 2.3. Means and standard deviations from Study 2.3.

Other Trait	Level of Morality	Level of Other Trait	*M*	*SD*
Sociability	High (Moral)	High (Sociable)	1.41	1.33
		Low (Unsociable)	0.14	1.14
	Low (Immoral)	High (Sociable)	-2.45	1.32
		Low (Unsociable)	-2.9	.94
Competence	High (Moral)	High (Competent)	1.94	1.17
		Low (Incompetent)	-0.01	1.22
	Low (Immoral)	High (Competent)	-2.53	1.20
		Low (Incompetent)	-2.69	1.13
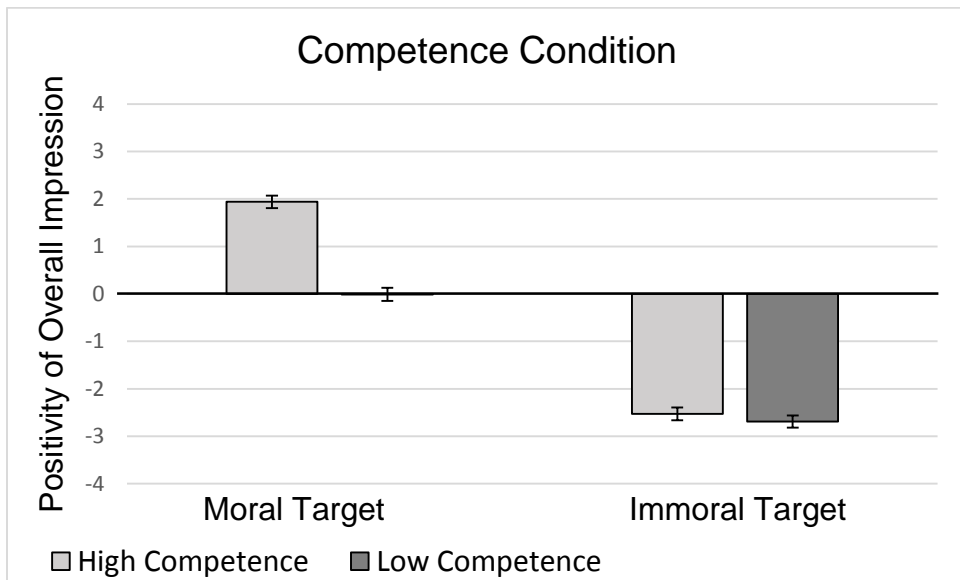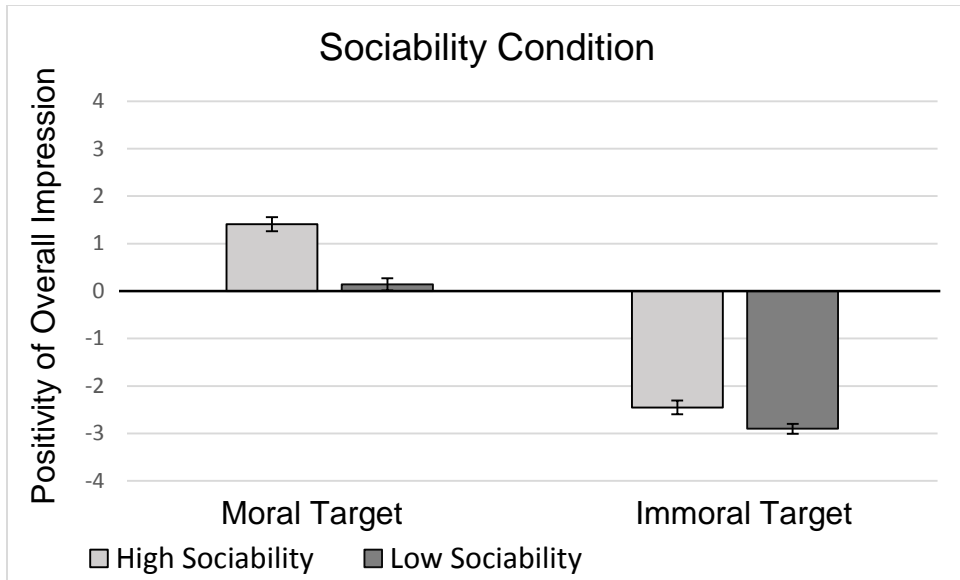
Figure 2.4. Positivity of overall impressions in Study 2.3.
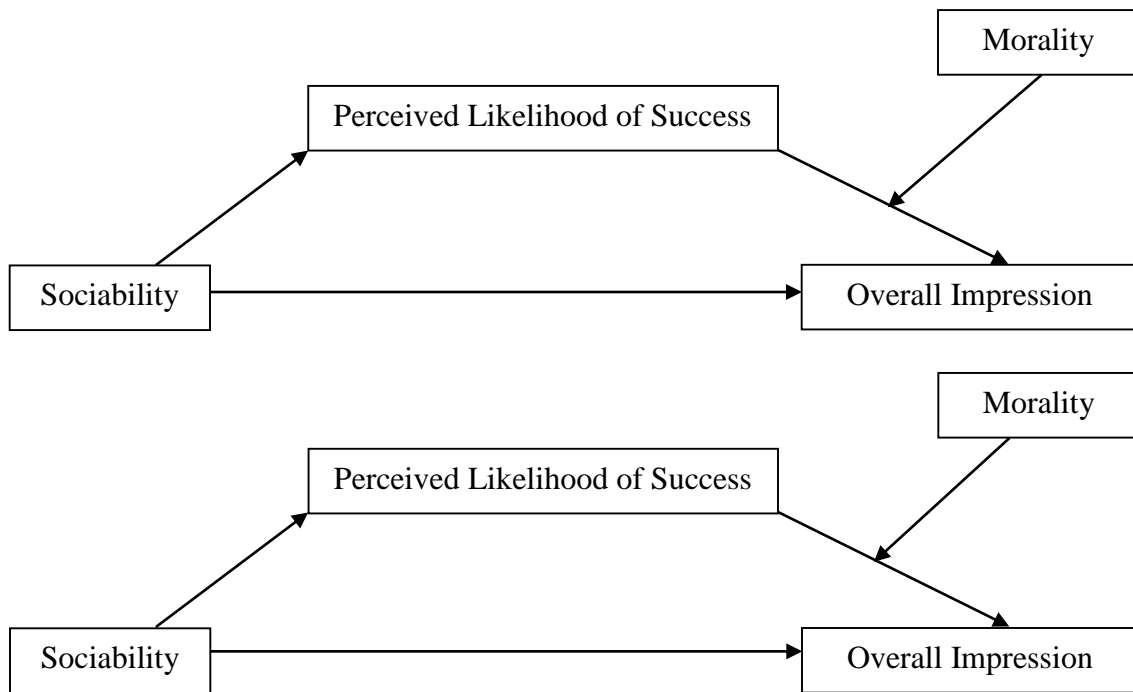
Figure 2.5. Moderated mediation models for the sociability and competence conditions in Study 2.3. The target's sociability or competence predicts the perceived likelihood that they will achieve their goals, which in turn predicts one's overall impression of the target. This latter relationship is moderated by the target's morality.

Table 2.4. Coefficients of moderated mediation models in Study 2.3, with upper and lower limits of bootstrapped 95% confidence intervals.

Sociability Condition

Predictor Variable	Outcome Variable	Coefficient	LL	UL
Level of sociability	Likelihood of success	1.99*	1.72	2.27
Level of sociability	Overall impression	.37*	.03	.72
Likelihood of success	Overall impression	.14	-.004	.28
Morality	Overall impression	3.26*	2.96	3.56
Morality x Likelihood	Overall impression	.20*	.03	.37

Competence Condition

Predictor Variable	Outcome Variable	Coefficient	LL	UL
Level of competence	Likelihood of success	2.92*	2.66	3.18
Level of competence	Overall impression	-.26	-.65	.14
Likelihood of success	Overall impression	.26*	.13	.39
Morality	Overall impression	3.47*	3.22	3.72
Morality x Likelihood	Overall impression	.35*	.22	.48

Note: Exact p-values were not computed in the bootstrap analysis; asterisks indicate coefficients for which the 95% confidence interval does not contain zero. LL = Lower Limit; UL = Upper Limit

Table 2.5. Means and standard deviations in Study 2.4.

Condition	Trait Type	Trait Valence	*M (reported change in impressions)*	*SD*
Very Immoral	Sociability	Positive (Sociable)	-.43	1.28
		Negative (Unsociable)	-.99	1.10
	Competence	Positive (Competent)	-.28	1.35
		Negative (Incompetent)	-1.07	1.32
Slightly Immoral	Sociability	Positive (Sociable)	.46	.94
		Negative (Unsociable)	-.82	1.09
	Competence	Positive (Competent)	.72	1.20
		Negative (Incompetent)	-.89	1.39
Moral	Sociability	Positive (Sociable)	1.02	.89
		Negative (Unsociable)	-1.00	.79
	Competence	Positive (Competent)	1.47	1.14
		Negative (Incompetent)	-1.13	1.16
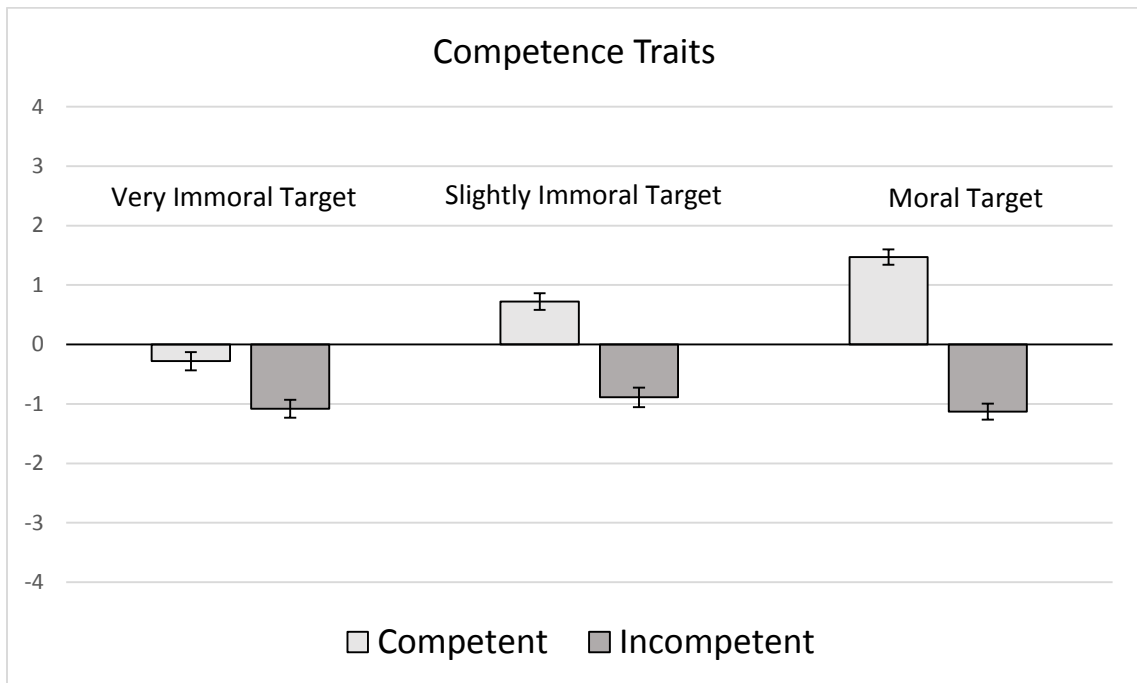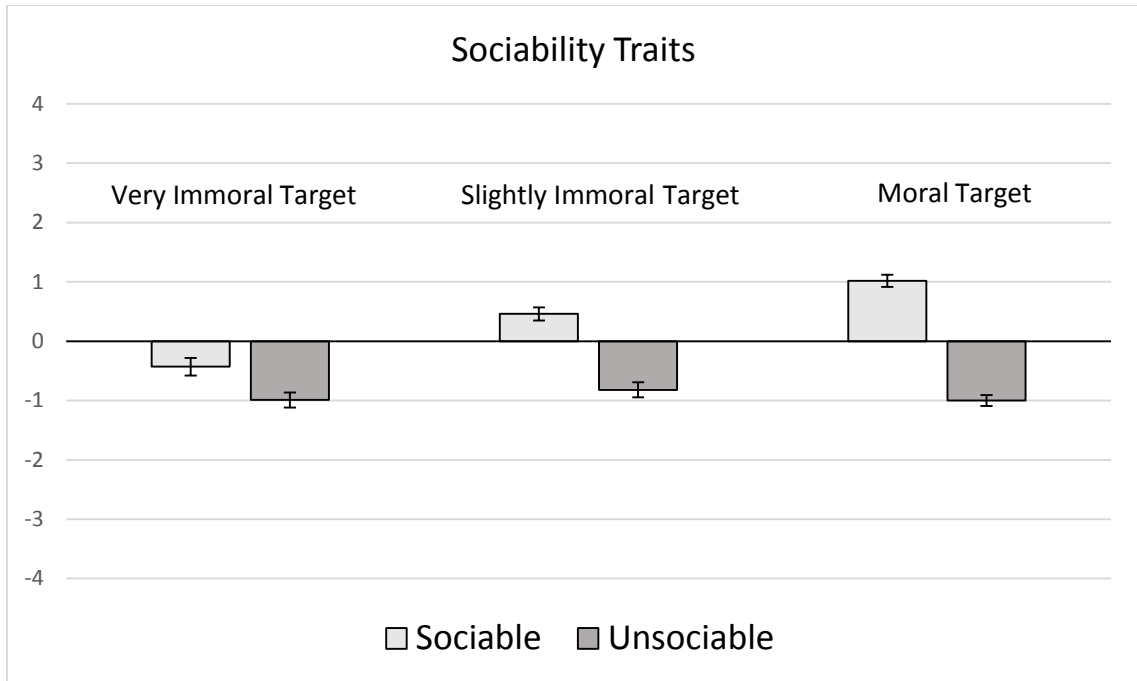
Figure 2.6. Change in overall impressions in Study 2.4, by target morality and type of trait information.

Table 2.6. Means and standard deviations from Study 2.5.

Target	Trait Type	Trait Valence	*M (reported change in impressions)*	*SD*
Immoral	Sociability	Positive (Sociable)	.09	.99
		Negative (Unsociable)	-1.11	1.12
	Competence	Positive (Competent)	.15	1.10
		Negative (Incompetent)	-1.87	1.57
	Morality	Positive (Moral)	.53	1.26
		Negative (Immoral)	-2.10	1.57
Moral	Sociability	Positive (Sociable)	1.24	.98
		Negative (Unsociable)	-1.21	.86
	Competence	Positive (Competent)	2.05	1.20
		Negative (Incompetent)	-2.07	1.14
	Morality	Positive (Moral)	2.46	1.12
		Negative (Immoral)	-2.66	1.14

Sociability

Immoral   Moral

☐ Sociable   ■ Unsociable

Competence

Immoral   Moral

☐ Competent   ■ Incompetent

80
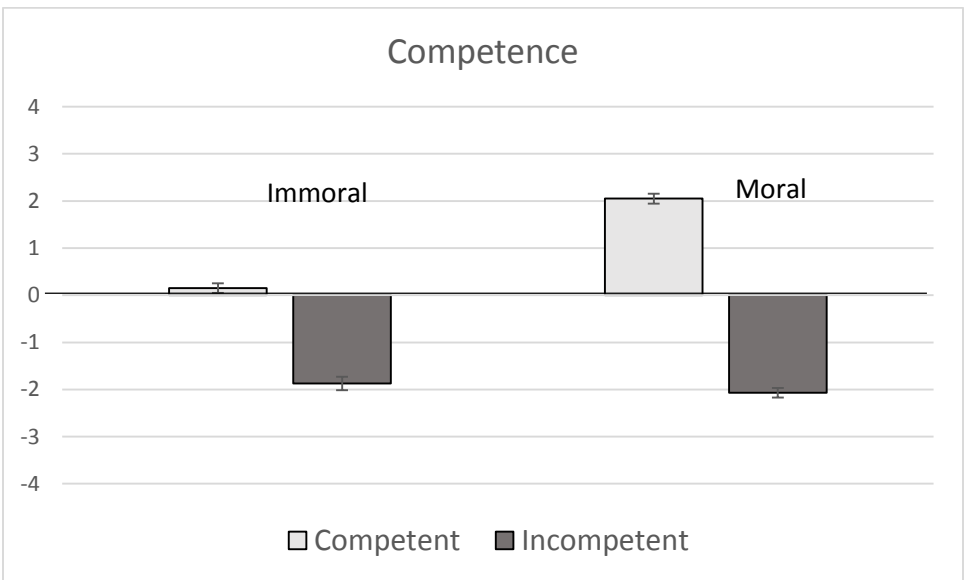
Figure 2.7. Change in overall impressions in Study 2.5, by target morality and type of trait information.

Thus far, I have shown that judgments of morality do not cohere with judgments of sociability or competence (Chapter 1), that judgments of morality, sociability, and competence differently predict intergroup emotions (Chapter 1), and that the perceived desirability and positivity of sociability and competence depend on a target's morality, whereas morality is always considered to be positive and desirable (Chapter 2). I turn now to the question of how these dimensions of judgment are applied to the self, and, specifically, what evaluative dimension(s) is most highly valued in the self. It is seemingly accepted among social cognition researchers that people primarily value morality in others, but primarily value competence in the self. In this chapter, I apply a novel methodological approach to this question, and show that competence is not always the most valued aspect of the self – under some circumstances, morality may be at least as important, if not somewhat more so.

Competence, Morality, and the Self

Wojciszke (2005) summarizes an extensive program of research examining how morality and competence are processed with respect to the self and others. One of his central theses is that competence is directly *self-profitable.* That is, regardless of one's goals, it is better for the self to pursue them efficiently and skillfully. Conversely, morality is primarily *other-profitable,* in that others are the primary beneficiaries of one's moral actions (and are the ones harmed by one's immoral actions). Therefore, competence ought to be more valued than morality in the self, whereas morality ought to be more valued than competence in others.

Several empirical findings support this theoretical assertion. Wojciszke (1994) showed that people tend to construe their own actions in terms of competence or incompetence (i.e., success or failure), but tend to construe others' actions in terms of morality or immorality (i.e., in terms of intentions). This held true whether participants were asked to imagine hypothetical events from either the actor or observer perspective, or if they recalled real events from their past. Moreover, when participants recall acts from their past, negative competence-related acts (i.e., failures) produce more extreme negative emotion than do negative morality-related acts (i.e., transgressions). Similarly, recalling positive competence-related acts (i.e., successes) produces more extreme positive affect than recalling positive morality-related acts (i.e., norm-maintaining behaviors or supererogatory acts; Wojciszke & Dowhyluk, 2003). Relatedly, Abele and Wojciszke (2007) found that people would rather improve their own "agentic" (i.e., competence) skills (time management and persuading an audience) than their "communal" (i.e., moral) skills (giving social support and moral self-development), suggesting that the agentic skills are more valued in the self.

Finally, in perhaps the most direct demonstration that competence is more valued in the self than morality, it has been shown that the extent to which one ascribes moral traits to one's self is only weakly and inconsistently predictive of one's self-esteem – as measured in various ways – whereas the extent to which one ascribes competence traits to the self robustly predicts self-esteem (Wojciszke et al., 2011). Importantly, this result was not explainable as a statistical artifact due to ceiling effects or restriction of range.

However, morality is thought to be a highly important aspect of many people's identity (Aquino & Reed, 2002), and people will often incur substantial personal costs to

maintain an image of themselves as moral individuals. For example, people will frequently cheat to earn rewards when the risk of detection is minimal, but only to a fairly small extent – in other words, they will forego a considerable amount of easily-obtained money to maintain an image of the self as (relatively) honest (Mazar, Amir, & Ariely, 2008). How can these findings be reconciled with the above results that seem to indicate that morality is not highly valued in the self? I propose that it is not that people do not *value* their morality, but rather, that they do not usually *doubt* it.

There may be many reasons why people would be generally more secure that they are highly moral than that they are highly competent. First, people generally receive quite a bit of feedback regarding their competence, be it exam grades, annual performance reviews, or meetings with their dissertation committees. Due to this preponderance of feedback from their social worlds, most people probably receive, at least on occasion, negative feedback about their competence, leading to a belief that they could do better. On the other hand, feedback about morality may be fairly uncommon. Criminal and civil court proceedings might qualify, but these typically pertain to fairly extreme failures in moral behavior – feedback about one's everyday morality may not be an especially common feature of our social worlds. Moreover, the feedback we do receive regarding our morality may be less objective than that we receive regarding our competence. Most competence measures are, at least in theory, fairly objective – wins and losses, grades, and so on, whereas any feedback that we do receive about our morality – say, through gossip in our social groups, may be seen as more subjective.

Lastly, it may be easier to reconstrue failures of morality than failures of competence in service of protecting one's self-concept. As noted, feedback about failures of competence tends to be direct and fairly objective – one either does or does not win the game, or pass the test, or secure the new account. On the other hand, it appears to be quite simple to reconstrue immoral behavior as morally irrelevant or "not that bad," thereby maintaining a moral self-concept, even when committing behaviors that would typically be considered immoral, especially if the behavior is committed in private, and thus is not subject to feedback from others (Mazar et al., 2008). Thus, people may be generally more secure in their own moral excellence than their own supreme competence. Indeed, the well-known better-than-average effect appears to be larger for moral traits than competence traits (Brown, 2012). This would explain why, for instance, people would prefer to improve their agentic/competence skills over their communal/moral skills – as far as most people are concerned, they probably have little to no room to improve their morality anyway.

Thus, it could be the case that people do value their own morality as much or more than they value their own competence, but they are more certain of their good moral character than their high competence, and therefore react more negatively to discrete failures of competence than morality, and wish to improve their competence rather than their morality. This possibility generates a novel prediction: when people's morality is credibly *threatened,* they should react at least as negatively – if not more so – as when their competence is credibly threatened. That is, if their confidence in their morality is shaken, they should show signs of valuing it highly. Participants' emotional reactions to threats to different aspects of their selves has not, to my knowledge, been used previously

as a way to measure the importance of those aspects. Therefore, in three studies, I presented participants with hypothetical or real threats to their morality, competence, or sociability, and measured their emotional responses. I predicted that participants would react at least as negatively to threats to their morality as to threats to their competence, if not more so. Although the primary comparison of interest in these studies is between threats to morality and competence, I also included threats to sociability for exploratory purposes.

Study 3.1

As a preliminary demonstration that competence is not always valued more in the self than morality, I had participants imagine that a group of their friends had impugned either their morality, their competence, their sociability, or both their morality and their sociability (using "blended" traits, as in Study 1.3), and then rate how they would feel using a variety of emotion terms. I hypothesized that participants would be at least as upset by challenges to their morality as by challenges to their competence.

Method

Participants. Three hundred-eight participants located in the United States were recruited through Amazon Mechanical Turk. Four did not complete the survey, leaving a final sample of $N = 304$. The sample was 45% female and represented a diverse range of ages ($M = 32.09$ years, $SD = 9.97$).

Procedure. Participants were randomly assigned to one of four conditions: Morality, Competence, Sociability, or Morality/Sociability. In each condition,

participants read a short vignette in which they overheard a group of friends say negative

things about them. For example, in the Morality condition, the vignette read:

Suppose you were at a social event hosted which several of your friends are attending.

Imagine that during this social event, you overhear a group of your friends talking about
you. You hear one of them say that they consider you to be an untrustworthy and
unprincipled person, and you see the rest of the group nodding and agreeing.

In the Sociability condition, "untrustworthy and unprincipled" was replaced with

"rude and disagreeable", in the Competence condition, with "irrational and incompetent",

and in the Morality/Sociability condition, with "unhelpful and selfish." These traits were

selected from a prior norming study (Goodwin et al., 2014, Study 1), in which nine

groups of participants rated different sets of trait terms on their overall valence (and

several other dimensions). The eight terms used in this study were each evaluated by a

different group of participants, creating a 4 (Condition: Morality, Sociability,

Competence, Morality/Sociability) by 2 (Two trait terms per condition) between-subjects

design. The mean valence in each condition was, unsurprisingly, quite low (Morality:

2.12, Sociability: 2.36, Competence: 2.11, Morality/Sociability: 2.16, on nine-point

scales), and did not differ between conditions, $F(3, 828) = .60$, $p = .62$. The

Morality/Sociability condition was added precisely because the terms in the Sociability

condition were slightly less extreme in their valence than the Morality and Competence

conditions. That is, the only way to create something like a Sociability condition that

contained traits that were as evaluatively extreme as in the Morality and Competence

conditions, was to use "blended" Morality/Sociability traits.

After reading the vignette, participants responded to a series of questions, all of

the form "How shocked would you feel?" on nine-point Likert scales. In addition to how

"shocked" they would feel, participants also indicated how "hurt", "angry", "irritated", "offended", and "insulted" they would feel. The order of presentation of the six questions was randomized for each participant. After responding to all six questions, participants responded to a brief demographic questionnaire, and were debriefed, thanked, and paid.

Results and Discussion

Principal components analysis of participants' responses to the six questions revealed only one factor, explaining 68.94% of the variance in responses, and all six questions loaded quite highly on this factor (range: .74 to .90). Moreover, the six questions showed very high internal reliability, $\alpha = .91$. Therefore, I averaged responses to all six questions together to produce one composite dependent variable.

This composite variable was then analyzed using a one-way ANOVA with four conditions. The effect of condition trended toward significance, $F(3, 300) = 1.97$, $p = .14$, , $\eta^2_p = .02$. As expected, participants showed the most negative responses in the Morality condition ($M = 7.60$ $SD = 1.46$). Their responses were less negative – though still quite negative overall, as one might expect – in the Sociability condition ($M = 7.29$, $SD = 1.43$), the Competence condition ($M = 7.17$, $SD = 1.51$), and the Morality/Sociability condition ($M = 7.05$, $SD = 1.64$). This last finding was somewhat unexpected. Given my hypothesis that morality is highly central to the self, I would expect very negative reactions to being called "unhelpful and selfish". Nonetheless, the purely moral traits "untrustworthy and unprincipled" elicited more negative reactions than the competence traits "irrational and incompetent," consistent with my hypothesis.

I next examined responses to each of the six dependent variables in separate one-way ANOVAs. Descriptive and inferential statistics can be found in Table 3.1. Briefly, participants in the Morality condition showed the most negative emotional response to all six questions, a pattern which was statistically significant for the "angry" and "offended" questions. Thus, participants consistently reacted most negatively to threats to their morality, though this effect was small and not always statistically reliable. Therefore, in Study 3.2, I attempted to replicate the effect.

Study 3.2

Method

Participants. Three hundred-seven participants located within the United States were recruited through Amazon Mechanical Turk. Three did not complete the survey, leaving a final sample of $N = 304$. The sample was 35% female and represented a diverse range of ages ($M = 30.94$ years, $SD = 9.37$).

Procedure. The procedure was very similar to Study 3.1. The vignette that participants read was modified slightly, such that in the Morality condition, it now read:

Suppose you were at a social event that several of your friends are attending.

Imagine that during this social event, you overhear a group of your friends talking about you. You hear one of them, whom you consider to be a close friend of yours, say that they consider you to be an untrustworthy and unprincipled person, and you see the rest of the group nodding and agreeing.

The vignettes in the Sociability, Competence, and Morality/Sociability conditions were identical, except for the fact that different trait terms were substituted in place of "untrustworthy and unprincipled," exactly as in Study 3.1. After reading the vignette, participants indicated on nine-point Likert scales how "angry", "offended", and

"betrayed" they would feel. I included "angry" and "offended" because these showed the clearest differentiation between conditions in Study 3.1, and added "betrayed" because it was a previously unused term that seemed to capture the central thrust of the event described in the vignette. The order of presentation of the three questions was randomized for each participant. After responding to all three questions, participants completed a short demographics questionnaire and were debriefed, thanked, and paid.

Results and Discussion

Principal components analysis of the three dependent variables retained one factor, accounting for 81.54% of the variance in responses. The three questions all loaded highly on this factor (range: .89-.92) and showed good internal reliability, $\alpha = .89$, so I again collapsed the three questions into one composite dependent variable.

I analyzed this composite variable using a one-way ANOVA with four conditions. There was a significant effect of condition, $F(3, 300) = 3.47$, $p = .017$, $\eta^2_p = .034$. As in Study 3.1, participants had the most negative reaction when their morality was challenged ($M = 7.75$, $SD = 1.20$). Follow-up between-subjects t-tests indicated that their reactions were significantly lower in the Sociability ($M = 6.94$, $SD = 1.46$, $t(151) = 3.75$, $p < .001$, $d = .61$), Competence ($M = 7.22$, $SD = 1.78$, $t(150) = 2.11$, $p = .036$, $d = .34$), and Morality/Sociability ($M = 7.21$, $SD = 1.83$, $t(149) = 2.12$, $p = .036$, $d = .34$) conditions. However, Tukey's HSD test indicated that only the Morality-Sociability difference was significant ($p = .009$; Morality-Competence: $p = .18$, Morality-Morality/Sociability: $p = .17$).

I next separately analyzed each dependent variable, to examine whether these results were consistent among them. Descriptive and inferential statistics can be found in

Table 3.2. Briefly, participants showed the most negative reactions when their morality was threatened for all three questions. The overall ANOVA was significant for the "angry" and "betrayed" questions, and marginally significant for the "offended" question.

Thus, this study replicated the pattern of results from Study 3.1. When participants imagined that a close other impugned an aspect of their personality, they were most upset when that aspect was their morality, rather than their competence or their sociability. This effect was somewhat more reliable in this study, though still not always statistically significant. Nonetheless, the result is quite consistent across the two studies. Indeed, when the data are combined from the two studies, the overall ANOVAs on the "angry" and "offended" questions – the only questions shared between the two studies – are both significant ($F(3, 604) = 5.72$, $p = .001$, $\eta^2_p = .028$ and $F(3, 604) = 3.77$, $p = .011$, $\eta^2_p = .018$, respectively). Tukey's HSD test found that responses to the Morality condition differed significantly from the Sociability and Morality/Sociability condition for both questions, ps < .03, but did not differ from the Competence condition for either question, ps > .30. Overall, then, it seems that morality is *at least* as valued in the self as competence, if not somewhat more so. In Study 3.3, I replicate this effect again using a psychologically real challenge to participants' morality, rather than hypothetical scenarios.

Study 3.3

Two criticisms might be leveled at Studies 3.1 and 3.2. First, because these studies employed hypothetical scenarios, participants never felt any actual threat to a valued aspect of the self. Therefore, similar to Study 2.1, these studies may have been tapping participants' theories about what they value (or what they *should* value) in

themselves, rather than what they actually value. To address this, in Study 3.3 I created a

psychologically real challenge to participants' morality, sociability, or competence by

giving them negative false feedback from a bogus psychological assessment. In this way,

participants were led to believe, briefly, that they were quite low in morality, sociability,

or competence, compared to their peers, creating a real psychological threat, rather than a

hypothetical one.

Second, the dependent variables used in Studies 3.1 and 3.2 were somewhat ad

hoc, and were not derived from any psychometrically validated emotional assessment.

Therefore, in Study 3.3, I measured participants' emotional reactions to the false

feedback using the Positive and Negative Affect Schedule-Expanded Form (PANAS-X;

Watson & Clark, 1994). The PANAS-X expands the original PANAS (Watson, Clark, &

Tellegen, 1988) beyond measures of general positive and negative affect to also include

scales measuring various discrete emotional states. The PANAS-X thus provides a more

nuanced assessment of participants' emotional states. Because threats to morality and

competence may elicit different emotional responses, obtaining this level of nuance

seemed worth the length of the task (60 questions).

Method

Participants. One hundred thirty-six participants were recruited from the

University of Pennsylvania subject pool in exchange for partial course credit. Because

the false feedback in this experiment could cause some distress in participants, the

recruitment materials specified that that no participant could have any history of mental

illness or emotional disturbance, and the research assistant confirmed this with every

participant upon arrival at the lab. Three participants were entirely excluded from all

analyses – two due to an error in the experimental procedure, and one due to being visibly intoxicated during the study. This left a final sample of $N = 133$ undergraduates (88 female).

Procedure. Participants arrived at the lab in groups of up to five, and, upon arrival, were seated in individual cubicles and were randomly assigned to one of three conditions: Morality, Sociability, or Competence. After giving informed consent, they completed the PANAS-X, indicating the extent to which they felt each of 60 emotion terms "right now." The 60 terms were presented in one of two randomized orders. After completing the PANAS-X, they were given a "personality assessment" consisting of ten questions. The questions took a variety of forms based loosely on various stimuli that have been used across different areas of psychology, including the Heinz dilemma, the prisoner's dilemma, and the Thematic Apperception Test. The exact questions varied by condition but were roughly consistent in the forms that they took. In each condition, the questions focused on words and behaviors related to the personality dimension to be threatened (morality, sociability, or competence). After participants completed the bogus assessment, the research assistant running the study collected the assessments and left the room to "score" them. In the interim, participants were given a word completion task to work on (derived from the dependent variable utilized by Anderson, Carnagey, & Eubanks, 2003).

After five minutes, the research assistant returned and gave participants a "results sheet" from their "personality assessment." It briefly presented as fact the (fictional) history of the assessment, which was identified as the "Stanford-Grey Short-Form Morality Assessment" (or "Sociability Assessment" or "Competence Assessment"). It

explained that the test assesses how well a person can be described by several trait terms (which differed by condition), and that it correlates well with real-world behavior. Participants were then told that, based on their results, they are more moral (or sociable, or competent) than 36% of other people, and less so than 64% of other people. These numbers were selected because they indicate that the participant is well below average, but seem at least somewhat plausible.[1] The sheet was designed to look like a standardized form on which the research assistant had hand-written these numbers. In reality, all participants received the same feedback. The full text of the bogus assessments and the results sheets can be found in Appendix B.

After reading over the results sheet, participants again completed the PANAS-X, this time with the 60 emotion words presented in a different randomized order (i.e., the order that the participant did not receive previously). Participants then completed a brief demographics questionnaire, and answered two open-ended questions about the study: "What was your reaction to the results of the personality assessment?" and "Did you notice anything strange or suspicious about any part of the experiment?" Finally, they were fully debriefed and thanked. In particular, it was stressed that the personality test and the accompanying results were entirely fabricated.

By having participants complete the PANAS-X twice, I could examine how the false feedback changed participants' emotional states.

Results and Discussion

Thirty-five participants indicated in their open-ended responses that they thought that the personality test was fake, or that it was intended to affect their mood. Because

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the threat to these participants was not psychologically real to them, they were excluded from analysis, though the reported results remain largely unchanged if they are included.[2]

Analyses were conducted on the change in participants' endorsement of the 60 emotion terms from prior to the personality assessment to after receiving the false feedback. The PANAS-X consists of two subscales that measure general positive and negative affect, and eleven subscales that measure more discrete emotional states, so I averaged the change scores for the emotion terms that comprise each subscale. Table 3.3 shows the mean change on each scale in each condition.

As can be seen in Table 3.3, participants showed the greatest increase in negative affect, hostility, and surprise, and the greatest reduction in self-assurance, attentiveness, and serenity, when their competence was threatened. However, they showed the greatest increase in guilt and sadness, and the greatest reduction in positive affect and joviality when their morality was threatened. Participants also showed the largest absolute change in fear when their morality was threatened, but this effect was extremely small, and the change was essentially zero in all three conditions. One-way ANOVAs comparing the three conditions were significant only for the guilt and sadness subscales. Tukey's HSD found that the morality and sociability conditions differed significantly on the guilt subscale, $p = .023$, and nearly significantly on the sadness scale, $p = .054$, but all other pairwise comparisons were nonsignficant, ps > .07. Overall, these results show that participants did not always react most negatively to threats to their competence, suggesting that competence is not always the most valued aspect of the self. Instead, morality and competence both appear to be highly valued, and challenges to them elicit different, but comparably negative, emotional reactions.

Overall, challenges to sociability tended to produce less emotion change than challenges to competence or morality. However, challenges to sociability did produce the largest observed reductions in shyness and fatigue. The former result may be a sort of motivated response to being told that one is not sociable – participants may have wanted to go socialize to prove to themselves that they were not as withdrawn as their test results suggested. The latter result is more difficult to explain, but may be due to a similar effect – socializing requires actively engaging with others, and therefore requires one to have the energy necessary to do so. Being motivated to socialize may have increased participants' energy and alertness. The overall ANOVA comparing the three conditions on the fatigue scale was significant, and Tukey's HSD showed that the morality and sociability conditions differed significantly from one another, $p = .044$, but there was no significant difference between the morality and competence conditions, $p = .13$, or the sociability and competence conditions, $p = 90$.

General Discussion

In this chapter, three studies presented participants with hypothetical and real threats to their morality, competence, or sociability, and examined their emotional reactions. When hypothetically threatened, Americans in two online samples (Studies 3.1 and 3.2) showed the most negative reactions to threats to their morality. When university undergraduates were presented with a (psychologically) real threat, they reacted negatively to threats to both competence and morality (and, to some extent, sociability), but showed different patterns of emotional reactions depending on what aspect of the self was threatened. These studies show that competence is not always the most valued aspect of the self – morality seems to be very highly valued as well, and which one is

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more valued may depend considerably on the circumstances, or on how "value" is measured.

Discrepant Results

One important difference between the results of Studies 3.1 and 3.2 deserves mention. In Studies 3.1 and 3.2, participants always showed the strongest negative emotional reaction to threats to their morality, rather than their competence. However, in Study 3.3, participants showed highly negative – though distinct – reactions to threats to both their morality and their competence. There are at least three (non-exclusive) explanations for this apparent discrepancy. The first is the nature of the dependent measures. In Studies 3.1 and 3.2, I examined only a small number of emotional states, whereas in Study 3.3, I examined a wide variety. It could be that the emotional states used as dependent variables in Studies 3.1 and 3.2 happen to be states that are primarily associated with threats to morality, rather than competence. However, I consider this explanation to be unlikely. Many of the emotion terms used in Studies 3.1 and 3.2 resemble the hostility subscale of the PANAS-X (e.g., angry, irritated, offended, insulted), and one is closely related to the surprise subscale (i.e., shocked). In Study 3.3, hostility and surprise were more associated with threats to competence than to morality.

There is a more plausible explanation, I think, that relates to the different sample employed in Study 3.3. Specifically, Study 3.3 sampled university undergraduates, a population immersed in an environment that heavily emphasizes competence. Thus, our sample in Study 3.3 may have generally valued their competence more than our samples in Studies 3.1 and 3.2. A third possible explanation has to do with the source of the threat – in Studies 3.1 and 3.2, the threat came from a close friend of the participant,

whereas in Study 3.3, it came from a previously unknown experimenter – or, more accurately, from a psychological assessment. Participants may have felt that a close conspecific is more qualified to judge their morality, whereas a psychological researcher may be more qualified to assess their competence, accounting for the more negative reactions to competence threats in Study 3.3 than the previous studies. Of course, it is important to keep in mind that the threats in Studies 3.1 and 3.2 were merely hypothetical, whereas the threats in Study 3.3 were thought by participants to be real, so any conclusions about a direct comparison between the results of the studies must necessarily be tentative.

I have proposed that prior results seemed to show that competence is almost universally more valued in the self than morality because people are generally more secure in their morality than their competence. However, in Study 3.3, participants showed greater surprise in response to credible threats to their competence than to their morality. If negative feedback about one's competence is less expected than negative feedback about one's morality, this would suggest that people are actually more secure in their competence than their morality. Why might this be? Once again, the answer may be related to the nature of the sample in Study 3.3. The participants in this study were not just undergraduates at any university, they were undergraduates at a very prestigious, elite university. They presumably all performed very well in high school, and have probably spent much of their lives receiving positive feedback about their competence. Thus, they may be more secure in their competence than members of the population at large. An important direction for future research is to see whether surprise is associated

more with competence threats or morality threats in a more representative sample. Based on my theorizing, I would expect it to be primarily associated with morality threats.

Connection to Other Research

The results of these three studies also shed additional light on the relationship between morality and sociability. I have previously shown that judgments of the morality and sociability of other people and groups do not strongly cohere, and that sociability is primarily desired in moral others. The three studies reported in this chapter suggest that morality (and competence) is generally more valued in the self than sociability, insofar as emotional reactions tended to be less extreme when one's sociability, rather than morality, was threatened. Moreover, Study 3.3 suggests that threats to one's morality and sociability are associated with different types of emotional reactions – threats to morality led to feelings of guilt and sadness, and reductions in positive affect and joviality, whereas threats to sociability produced reductions in shyness and fatigue. This is yet another dissociation in how these two dimensions of judgment are processed, and one more piece of evidence that they are not especially closely related to one another psychologically.

Conclusion

In sum, this research challenges the idea that competence is generally a more valued aspect of the self than is morality. Morality seems to be at least as valued as competence in general, and whether one is valued over the other at any given time is likely to be highly dependent on the situation. Moreover, threats to morality and competence appear to be associated with different types of negative reactions, with morality threats producing sadness and guilt, and competence threats producing hostility

(and, perhaps, surprise). Moreover, threats to morality and sociability also appear to be associated with different emotional responses, again showing that these dimensions of judgment are processed quite differently. Overall, these three studies provide a more nuanced picture than prior research of how three important dimensions of social cognition are applied to the self.

Footnotes

[1] In an early version of this study, participants were told that they were more moral (or sociable or competent) than 19% of other people, and less so than 81% of other people. I quickly abandoned this version, because participants almost universally refused to accept the false feedback and recognized that it was probably fabricated. This was less common in the final version of the study, though it did occur in some instances (see Results section).

[2] Two minor changes are observed if these participants are included: the overall ANOVA on the sadness subscale becomes nonsignficant, and Sociability, rather than Morality, shows the largest effect on the fear subscale.

Table 3.1. Results of separate one-way ANOVAs for the six dependent variables in Study 3.1.

DV	$M_{Morality}$	$M_{Sociability}$	$M_{Competence}$	$M_{Morality/Sociability}$	$F(3, 300)$	p	η^2_p
Shocked	7.49 (1.85)	7.36 (1.80)	7.10 (1.96)	7.46 (1.73)	.70	.554	.007
Hurt	7.69 (1.87)	7.69 (1.56)	7.12 (1.87)	7.54 (1.88)	1.76	.155	.017
Angry	7.17 (1.83)	6.62 (1.95)	6.74 (2.04)	7.47 (1.65)	3.67	.013	.035
Irritated	7.47 (1.67)	7.08 (1.84)	6.99 (2.04)	6.82 (2.07)	1.53	.207	.015
Offended	7.88 (1.52)	7.47 (1.65)	7.57 (1.64)	7.08 (1.95)	2.82	.039	.027
Insulted	7.89 (1.70)	7.54 (1.59)	7.48 (1.73)	7.27 (1.82)	1.72	.164	.017

Note. Numbers in parentheses are standard deviations.

Table 3.2. Results of separate one-way ANOVAs for the three dependent variables in Study 3.2.

DV	$M_{Morality}$	$M_{Sociability}$	$M_{Competence}$	$M_{Morality/Sociability}$	$F(3, 300)$	p	η^2_p
Angry	7.20 (1.53)	6.32 (1.77)	6.70 (2.10)	6.55 (2.08)	2.95	.033	.029
Offended	7.82 (1.31)	7.10 (1.54)	7.43 (1.90)	7.43 (2.15)	2.11	.100	.021
Betrayed	8.22 (1.20)	7.38 (1.72)	7.54 (1.86)	7.67 (1.75)	3.79	.011	.036

Note. Numbers in parentheses indicate standard deviations.

Table 3.3. Mean change in endorsement of 13 PANAS-X subscales and inferential statistics from Study 3.3.

PANAS-X Subscale	$M_{Morality}$	$M_{Competence}$	$M_{Sociability}$	$F(2, 95)$	p	η^2_p
Negative Affect	.10 (.35)	**.23 (.56)**	.06 (.38)	1.35	.264	.028
Positive Affect	**-.44 (.45)**	-.34 (.88)	-.19 (.46)	1.37	.259	.028
Fear	**-.05 (.28)**	.01 (.45)	-.02 (.33)	.24	.791	.005
Hostility	.15 (.40)	**.25 (.79)**	.05 (.46)	.94	.396	.019
Guilt	**.40 (.59)**	.33 (.74)	.01 (.42)	4.14	.019*	.080
Sadness	**.68 (.49)**	.63 (.71)	.34 (.49)	3.25	.043*	.064
Joviality	**-.55 (.65)**	-.46 (1.08)	-.22 (.41)	1.68	.192	.034
Self-Assurance	-.40 (.49)	**-.49 (.61)**	-.25 (.55)	1.59	.210	.032
Attentiveness	-.33 (.74)	**-.44 (.73)**	-.14 (.63)	1.49	.230	.030
Shyness	.00 (.34)	.01 (.37)	**-.08 (.48)**	.50	.611	.010
Fatigue	-.02 (.74)	-.30 (.52)	**-.36 (.44)**	3.34	.040*	.066
Serenity	-.15 (.98)	**-.62 (1.13)**	-.24 (.64)	2.31	.105	.046
Surprise	.57 (.69)	**.98 (1.04)**	.62 (.73)	2.30	.106	.046

Note. *p < .05; For each subscale, the condition showing the largest absolute change is presented in **bold.** Numbers in parentheses indicate standard deviations.

APPENDIX A: SUPPLEMENTARY MATERIALS FOR CHAPTER 1

Pre-Study for Study 1.3

Method

     Participants. Ninety-five participants were recruited through Amazon
Mechanical Turk. Eighteen failed to complete the study, leaving a final sample of $N =$
77. The sample was 43% female and represented a diverse range of ages ($M = 32.5$, $SD =$
9.8).

     Procedure. We first generated a set of thirty traits that we thought would provide
good coverage of our six theoretical categories. Participants were presented with each
trait on a separate page of the study in a randomized order. For each trait, they rated the
extent to which it was a "morality trait," a "sociability trait," and a "competence trait" on
nine-point Likert scales (1 = "Not at all", 5 = "Somewhat", 9 = "Very much"). Each of
these three types of trait was defined in everyday language on the first page of the study,
and the definitions were repeated on each subsequent page for reference. A morality trait
was defined as "a trait that contributes to someone's being a virtuous person and having
admirable character," a sociability trait was defined as "a trait that contributes to a person
having a warm personality and being enjoyable to socialize with," and a competence trait
was defined as "a trait that reflects an ability or capacity that a person has to accomplish
tasks effectively and succeed in what they set out to do." After rating all thirty traits,
participants completed a brief demographics questionnaire and were debriefed, thanked,
and paid. We intended to include three traits in each of the six categories of interest in
the final study.

This study also included the fully bottom-up trait generation procedure mentioned in the General Discussion. This was included prior to the procedure detailed above, so the traits in this pre-study could not have been primed in participants while they were completing the bottom-up procedure.

Results

Pure Traits. We intended to include the superordinate category labels "moral," "sociable" and "competent" in the main study, meaning that we needed to add two "pure" traits for each dimension. Our criteria for selecting these pure traits were that each one had to have a mean rating on the target dimension of at least seven (on the nine-point scale), and that this rating also had to be substantially higher than the ratings on the other two dimensions. We operationalized "substantially higher" in terms of effect sizes rather than p-values, which were fairly uninformative. Specifically, the repeated-measures ds (Morris & DeShon, 2002) comparing the target dimension to each of the other two dimensions had to be greater than $d = .93$, which was the mean effect size across all comparisons in the study. Based on these criteria, we retained the traits *friendly* and *extroverted* for sociability, and *effective* and *talented* for competence. For morality, however, only one trait met the criteria: *honest*. We chose to retain *fair* as well, despite the effect size comparing morality and sociability ratings being slightly below our threshold, $d = .79$, because it consistently factored with the morality factor in Studies 1 and 2, and previous research has shown that it is considered to be highly relevant to morality, but less relevant to warmth (Goodwin et al., 2014).

"Blended" Traits. For each of the "blended" categories of morality/sociability, morality/competence, and sociability/competence, we needed three traits that received high and substantially similar ratings on the two relevant dimensions. Traits met this criterion if they had a mean rating greater than seven on at least one of the target dimensions, and an effect size of less than $d = .93$ (the mean effect size across all comparisons) comparing that dimension to the other target dimension. For example, *humble,* a morality/sociability trait, had a mean rating above seven ($M = 7.42$) on morality, and a mean rating of 6.40 on sociability, meaning that the effect size comparing morality and sociability was relatively small, $d = .53$. Based on this criterion, we retained the traits *humble, respectful,* and *compassionate* for the morality/sociability category, *principled, responsible,* and *disciplined* for the morality/competence category, and *cooperative* and *enthusiastic* for the sociability/competence category. To obtain one additional sociability/competence trait, we retained *dynamic*, notwithstanding that its highest rated dimension (sociability) received a mean rating of only 6.56. It should be noted that these are within-subjects effect sizes, and therefore are larger than they would be if they were converted to the more familiar between-subjects d (see Morris & DeShon, 2002). The full trait set, with mean ratings on all three dimensions, can be found in Table A.1.

Pre-Study for Study 1.4

Method

Participants. Sixty-five participants located in the U.S. were recruited through Amazon Mechanical Turk in exchange for monetary compensation. Two participants

failed a Captcha question and were excluded. Thirteen more did not finish the survey, but since this study involves no inferential statistics, their incomplete data were retained, leaving a final sample of $N = 63$. The sample was 38% female, and represented a diverse range of ages ($M = 33.9$ years, $SD = 11.7$).

Procedure. After consenting to participate, participants were told that "we would like you to think of jobs, occupations, or professions that you feel American culture has a clear impression of. For each occupation, Americans should have a clear impression of what a person who performs that occupation is like. For instance, it might be generally thought that people in Profession A usually have a particular type of personality. The occupations that you think of can be quite specific, or they can be more general." It was stressed that there were no right or wrong answers, and participants were clearly instructed not to use the same job, occupation, or profession for more than one answer.

On the next four pages, participants entered five jobs, professions, or occupations that fit four separate criteria, namely ones: "that American culture has a *positive* overall impression of," "that American culture has a *negative* overall impression of," "that American culture has a *neutral* overall impression of. By neutral, we mean neither positive nor negative, but somewhere in the middle," and "that American culture has an *ambivalent* overall impression of. By ambivalent, we mean that the impression contains both positive and negative elements. Another way to say this might be that the impression is 'mixed' or 'conflicted.'" We wanted to give participants some criteria to meet so that there would be variance in their responses, but we were careful to avoid any mention of the three dimensions of interest in our instructions, instead focusing on the global valence of society's "impressions" (i.e., stereotypes). The order in which

participants generated examples in response to each prompt was randomized between-subjects. After completing the four pages of the survey, participants completed a brief demographics survey, and were thanked, debriefed, and paid.

Results and Discussion

A female research assistant, who was blind to the purpose of the study, was given a dataset containing every participant's responses. Collapsing across the different prompts, she was instructed to count the total number of mentions of each profession, counting duplicate answers by the same participant only once (only one participant repeated an answer; the rest adhered to the instructions not to do so). We intended to retain approximately the 40 most frequently mentioned professions for use in Study 4, as a complement to the 38 social groups drawn from prior SCM research with American samples. Because of a tie in the number of mentions, we retained 41 professions (indicated by asterisks in Table A.3).

Table A.1. Traits used in Study 1.3, with mean ratings on morality, sociability, and competence, and within-subjects ds for all comparisons from the pre-study.

Trait	$M_{Morality}$	$M_{Sociability}$	$M_{Competence}$	d_{MS}	d_{MC}	d_{SC}
Moral	-	-	-	-	-	-
Honest	8.47	6.44	5.48	1.01	1.22	.40
Fair	7.45	6.08	4.94	.79	1.05	.53
Sociable	-	-	-	-	-	-
Friendly	5.06	8.60	4.04	1.40	.42	1.57
Extroverted	2.99	7.84	4.42	1.51	.58	1.22
Competent	-	-	-	-	-	-
Effective	3.49	4.18	8.43	.31	1.64	1.57
Talented	2.88	4.92	8.09	.83	1.66	1.60
Humble	7.42	6.40	3.71	.53	1.40	1.15
Respectful	7.55	7.44	4.86	.06	1.08	1.10
Compassionate	7.64	7.09	3.82	.34	1.42	1.33
Principled	7.55	5.05	5.90	1.15	.75	.41
Responsible	6.69	5.58	7.91	.52	.65	1.10
Disciplined	5.91	4.38	7.75	.65	.85	1.35
Cooperative	5.04	7.39	6.36	1.04	.57	.55
Enthusiastic	3.26	7.35	5.39	1.47	.83	.87
Dynamic	3.09	6.56	6.12	1.30	1.15	.22

Table A.2. Cluster memberships and group-level morality, sociability, and competence ratings in Study 1.4. Groups indicated with an asterisk are the 41 professions retained from the pre-study. Within rows, means with no common subscripts differ significantly, $p < .05$.

Cluster/Group	Morality	Sociability	Competence
Cluster 1 Mean	**4.08**	**5.37**	**4.05**
Salespeople*	3.10_a	6.24_b	5.50_c
Garbage Collectors*	4.92_a	4.16_b	3.93_b
Fast Food Employees*	4.25_a	4.62_b	3.05_c
Politicians*	2.78_a	5.10_b	4.28_c
Used Car Salesmen*	2.33_a	5.58_b	4.48_c
Taxi Drivers*	3.95_a	4.73_b	4.35_c
Disabled	5.83_a	4.95_b	4.13_c
Lesbians	4.67_a	5.18_b	5.14_b
Sexy Women	3.72_a	6.81_b	3.85_a
Retarded	4.60_a	5.38_b	2.59_c
Janitors*	4.94_a	4.59_b	3.88_c
Young People	4.26_a	6.38_b	4.70_c
Blacks	4.43_a	5.26_b	4.80_c
Hispanics	4.53_a	5.28_b	4.70_a
Poor Whites	3.59_a	4.30_b	2.82_c
Strippers*	2.55_a	6.52_b	3.58_c
House Cleaners	4.77_a	4.79_a	4.24_b
Babies	4.28_a	6.83_b	2.80_c
Cluster 2 Mean	**6.67**	**5.41**	**7.42**
Teachers*	6.98_a	6.50_b	6.99_a
Judges*	7.29_a	4.11_b	7.15_a
Doctors*	7.24_a	5.86_b	8.03_c

Chefs*	6.34$_a$	6.28$_a$	7.37$_b$
Firefighters*	8.03$_a$	7.20$_b$	7.94$_a$
Electricians*	5.61$_a$	5.28$_b$	7.03$_c$
Educated	6.41$_a$	5.33$_b$	7.63$_c$
Dentists*	6.16$_a$	5.32$_b$	7.32$_c$
Businesswomen	5.92$_a$	5.46$_b$	6.79$_c$
Nurses*	7.21$_a$	6.67$_b$	7.35$_a$
Librarians*	7.05$_a$	4.88$_b$	6.81$_c$
Scientists*	6.87$_a$	3.87$_b$	8.21$_c$
Professionals*	5.92$_a$	5.40$_b$	7.68$_c$
Accountants*	5.80$_a$	3.78$_b$	6.95$_c$
Asians	6.02$_a$	4.58$_b$	7.50$_c$
Veterinarians*	7.25$_a$	6.54$_b$	7.48$_c$
Engineers*	6.78$_a$	4.71$_b$	8.12$_c$
Soldiers*	7.20$_a$	5.68$_b$	7.21$_a$
Cluster 3 Mean	**2.20**	**3.14**	**2.99**
Telemarketers	2.25$_a$	3.96$_b$	3.19$_c$
Poor Blacks	2.87$_a$	3.97$_b$	2.97$_a$
Welfare Recipients	2.58$_a$	3.54$_b$	2.61$_a$
Homeless	2.15$_a$	2.39$_b$	2.07$_a$
Drug Dealers	1.48$_a$	2.61$_b$	2.37$_b$
Terrorists	1.36$_a$	1.47$_a$	3.33$_b$
Poor People	3.21$_a$	3.95$_b$	2.71$_c$
Psychopaths	1.33$_a$	2.23$_b$	3.61$_c$
Arabs	3.01$_a$	2.64$_b$	4.42$_c$
Prostitutes	1.76$_a$	4.61$_b$	2.62$_c$
Cluster 4 Mean	**5.67**	**5.94**	**5.86**

Southerners	5.53$_a$	6.54$_b$	4.40$_c$
Middle Class	6.41$_a$	6.14$_b$	6.34$_a$
Whites	6.05$_a$	6.20$_a$	6.61$_b$
Women	6.19$_a$	6.83$_b$	6.02$_a$
Blind People	5.92$_a$	4.72$_b$	5.02$_c$
Black Professionals	5.62$_a$	5.60$_{ac}$	5.85$_{bc}$
Men	5.76$_a$	5.84$_a$	6.88$_b$
Artists*	5.49$_a$	6.33$_b$	6.63$_b$
Cosmetic Surgeons	4.70$_a$	5.61$_b$	7.31$_c$
Plumbers*	5.09$_a$	4.79$_a$	6.01$_b$
Postal Workers*	6.25$_a$	5.50$_b$	5.47$_b$
Jews	5.19$_a$	4.94$_a$	6.59$_b$
Native Americans	5.45$_a$	4.61$_b$	5.09$_c$
Blue Collar Workers	6.09$_a$	5.76$_b$	5.92$_{ab}$
Housewives	6.11$_a$	6.45$_b$	5.29$_c$
Motivational Speakers	5.95$_a$	7.28$_b$	6.92$_c$
Christians	6.43$_a$	5.78$_b$	5.53$_c$
Waiters/Waitresses*	5.74$_a$	6.90$_b$	5.08$_c$
Students	5.10$_a$	6.31$_b$	6.07$_b$
Clergy*	6.42$_a$	5.62$_b$	5.76$_b$
Northerners	5.57$_a$	5.24$_b$	6.30$_c$
News Anchors*	5.19$_a$	6.33$_b$	5.97$_c$
Secretaries*	5.88$_{ab}$	6.20$_a$	5.70$_b$
Athletes*	5.15$_a$	6.75$_b$	7.15$_c$
Elderly	6.82$_a$	5.64$_b$	4.64$_c$
Social Workers*	6.50$_a$	5.73$_b$	6.08$_c$
Evangelical Christians	5.79$_a$	5.32$_b$	4.62$_c$

Managers*	5.42$_a$	4.99$_b$	6.04$_c$
Gay Men	4.59$_a$	6.67$_b$	5.23$_c$
Actors*	4.73$_a$	6.90$_b$	6.36$_c$
Construction Workers*	5.00$_a$	5.10$_a$	5.72$_b$
Children	5.33$_a$	7.47$_b$	4.95$_c$
Cluster 5 Mean	**3.85**	**3.95**	**5.46**
Mechanics*	4.03$_a$	4.61$_b$	6.23$_c$
Muslims	3.73$_a$	3.20$_b$	4.49$_c$
Atheists	3.62$_a$	3.96$_b$	4.54$_c$
Private Military Contractors	3.50$_a$	3.26$_a$	6.11$_b$
Feminists	4.65$_a$	4.02$_b$	4.94$_c$
CEOs*	3.28$_a$	4.56$_b$	6.10$_c$
IRS Agents*	3.56$_a$	2.33$_b$	4.85$_c$
Lawyers*	3.52$_a$	4.62$_b$	6.87$_c$
Rich People	3.84$_a$	4.95$_b$	5.96$_c$
Bankers*	3.51$_a$	4.01$_b$	5.83$_c$
Police Officers*	5.29$_a$	4.25$_b$	5.49$_a$
Migrant Workers	3.67$_a$	3.66$_a$	4.06$_b$

Table A.3. Factor loadings of 29 emotion terms in Study 1.4. Factor loadings below .40 are not shown.

	Factor 1 - Antipathy	Factor 2 – Admiration	Factor 3 – Sympathy	Factor 4 - Envy
Tension	.925	-	-	-
Anxiety	.920	-	-	-
Fear	.904	-	-	-
Anger	.891	-	-	-
Hatred	.888	-	-	-
Unease	.879	-	-	-
Resentment	.853	-	-	-
Frustration	.837	-	-	-
Irritation	.832	-.429	-	-
Contempt	.831	-.488	-	-
Disdain	.808	-.556	-	-
Disgust	.768	-.585	-	-
Disappointment	.766	-.562	-	-
Shame	.674	-.566	-	-
Pride	-	.862	-	-
Admiration	-	.830	-	-
Respect	-.422	.826	-	-
Security	-	.811	-	-
Inspiration	-	.802	-	-
Comfort	-.493	.779	-	-
Fondness	-.443	.759	-	-
Condescension	.599	-.733	-	-
Joy	-.413	.698	-	-
Affection	-	.684	.487	-

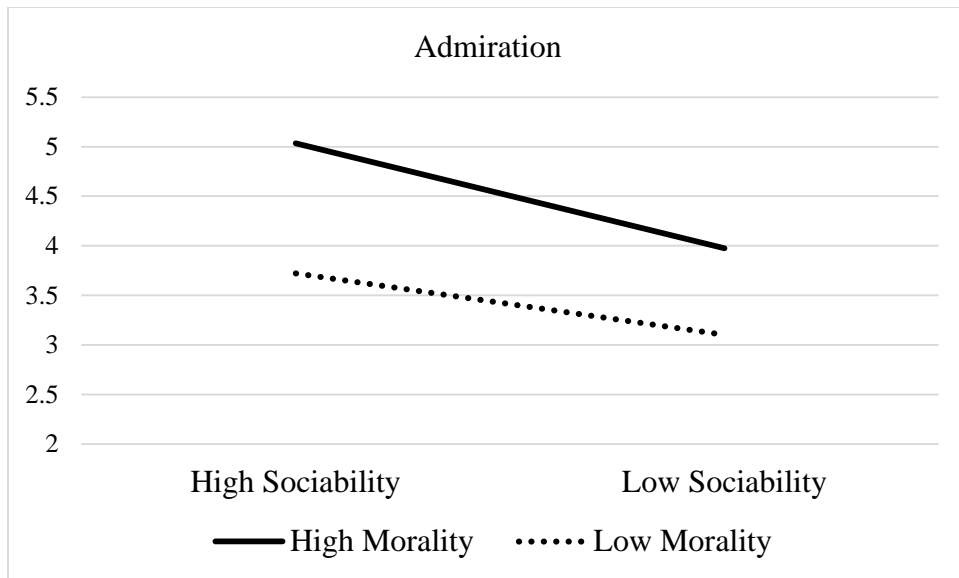|				
Sympathy	-	-	.892	-
Pity	-	-.548	.724	-
Compassion	-	.560	.715	-
Jealousy	-	-	-	.930
Envy	-	-	-	.884

Figure A.1. Admiration ratings at ± 1 *SD* from the mean on morality and sociability ratings, in Study 1.4.

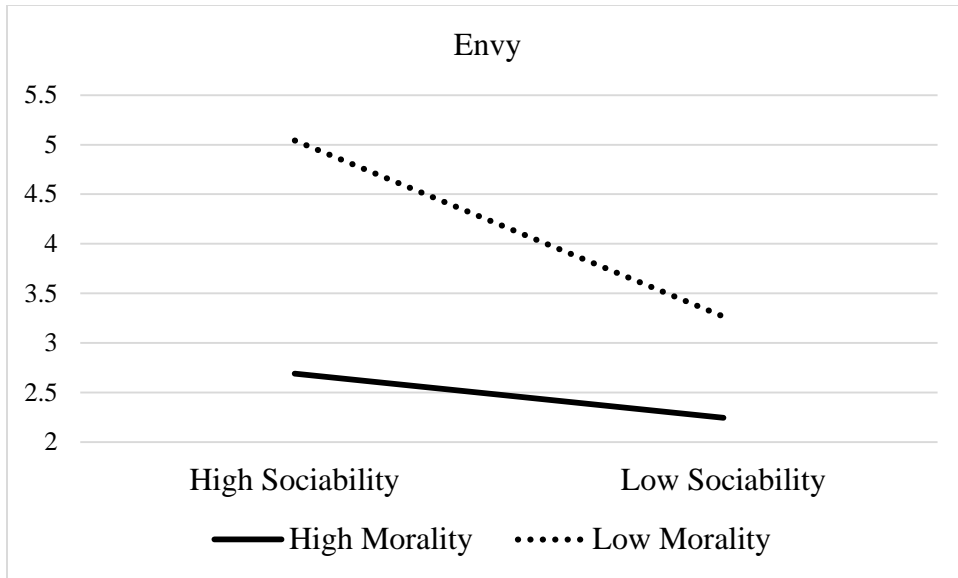**Figure A.2.** Envy ratings at ± 1 *SD* from the mean on morality and sociability ratings, in Study 1.4.

In all conditions, the results sheet was filled out by hand by the research assistant as follows: the first blank was filled in with 36%, the second blank was filled in with 64%, and "Relatively Low" and "Below Average" were circled for the summary statements.

Personality Assessment

Instructions: Write or circle your answers to the questions below.

1. How many hours a week do you spend contributing to charitable causes? (Enter a number): _____

2. When was the last time you told a lie? (Enter the number of weeks ago that you last told a lie): _____

3. Imagine that you encounter a person on the street who appears to be injured. What would you be most likely to do?
-Continue walking, and leave the person
-Look around and see if there is anyone else around; if there is, continue walking and let them help the person
-Ask the person if they are all right, and offer to help
-Shout for help
-What I would do would depend on how much of a hurry I was in

4. Suppose that you saw a group of people making fun of someone for the way he looks. How likely would you be to step in and try to stop them?
-Very unlikely
-Unlikely
-Somewhat unlikely
-Somewhat likely
-Likely
-Very likely

5. How many people have you thought unkind things about in the last thirty days? (Enter a number): ____

6. Suppose you are playing an anonymous game where you have been given $100 for free. There is another player in another room whom you will never meet. You can give any portion of the money to this player, and keep the rest for yourself. How much would you give the other player (knowing that you will keep the rest for yourself)? (Enter a number): _____

7. Consider the following scenario:

Jim's wife is dying from cancer, and the only drug that could help her is a form of radium that a doctor in his town had recently discovered. The drug was expensive to make, but the doctor was charging ten times what the drug cost him to produce. He paid $200 for the radium and charged $2,000 for a small dose of the drug. Jim went to everyone he knew to borrow the money, but he could only get together about $1,000 which is half of what it cost. He told the doctor that his wife was dying and asked him to sell it cheaper or let him pay later. But the doctor said: "No, I discovered the drug and I'm going to make

money from it." Jim is desperate, and is considering breaking into the man's laboratory to steal the drug for his wife.

What would you do in Jim's position? Why?
- I would not steal the medicine because it is illegal.
- I would steal the medicine because everyone has a right to live, regardless of the law.
- I would not steal the medicine because the scientist has a right to fair compensation. Even if Jim's wife is sick, that does not make stealing right.
- I would steal the medicine, because saving a human life is a more fundamental value than the property rights of another person.

8. Consider the image below. Think about what you think is happening in the image. What do you think the story is behind the image?

Below are three brief stories. Which one is most similar to what you think is happening in this image?
-The little girl is holding her doll and ignoring what the maid is saying, because she thinks the maid is inferior to her.
-The little girl is holding her baby brother, and her mother is instructing her how to hold him so that he does not get hurt.

-The little girl is holding her doll and her mother is trying to take it away as a punishment, which is why the girl looks upset.

9. Consider the following five words: dishonest, trustworthy, lie, deceitful, unkind. Which three words most naturally "go together" to make a coherent set?

10. Below are five terms that may or may not describe you well. We would like you to tell us how well you think each term describes you, compared to the average person. Before answering, think about people that you know, so that you have a baseline average to compare yourself to. Then, for each trait, tell us on a scale of 1 to 9 how well it describes you.

I am much less   I am much more
like this than   like this than
the average person   the average person

1   2   3   4   5   6   7   8   9

Dishonest _____

Unfair _____

Uncompassionate _____

Principled _____

Humble _____

Stanford-Grey Short-Form Morality Assessment: Results

The questions that you just answered are a standard psychological test called the Stanford-Grey Short-Form Morality Assessment. It is designed to assess the sophistication of how you think about concepts relating to morality (and immorality) as well as your level of moral and immoral behavior. In other words, it is a standard assessment of how well you can be described by personality traits such as loyal, honest, and benevolent.

The original Stanford-Grey inventory was developed in 1992, and the short-form revision that you took was developed in 1998. Since then, it has been used in well over 200 psychological studies, most of them involving college undergraduates like you.

Like any psychological test, there is some degree of measurement error in the Stanford-Grey scale. In other words, it is not a perfectly accurate test, and any result is only an approximation. Nonetheless, it has been shown to be a valid and reliable measure of a person's moral thinking, and to predict actual, real-world moral behavior with reasonable accuracy.

We can compare your answers to those of the thousands of other people like you who have taken this personality assessment. In other words, we cannot say "you are X% moral", but we can say how moral or immoral you are *compared to other people.*

Based on your answers, when compared to people of your sex/gender and approximate age, YOU ARE MORE MORAL THAN _____% OF OTHER PEOPLE, AND LESS MORAL THAN _____% OF OTHER PEOPLE.

The sophistication of your moral thinking is:

Relatively Low   About Average   Relatively High

Your level of moral behavior is:

Below Average   About Average   Above Average

Personality Assessment

Instructions: Write or circle your answers to the questions below.

1. How many hours a week do you spend studying for your classes? (Enter a number): _____

2. When was the last time you did worse on an assignment or project than you hoped? (Enter the number of weeks ago that you last did worse on an assignment or project than you hoped): _____

3. Imagine that you are working on a collaborative project with a coworker. What would you be most likely to do?
-Let them take the lead, and do what they needed me to
-Figure out how good they are at the task; if they are good at it, let them take the lead
-Take the lead, and do most of the work
-Split the work about equally and try to work collaboratively
-What I would do would depend on what kind of project it was

4. Suppose that you were assigned a project that was not due for several months. How likely would you be to start working on it this week?
-Very unlikely
-Unlikely
-Somewhat unlikely
-Somewhat likely
-Likely
-Very likely

5. What is/was your college grade point average? (Enter a number): ____

6. Suppose that you are financially comfortable, and you have $100 that you want to invest. You are going to split it between Investment A and Investment B. Investment A has an average rate of return of 30%, but a 20% chance that all of the money you invest in it will be lost. Investment B has an average rate of return of 40%, but a 25% chance that all of the money you invest in it will be lost. How much would you invest into Investment A (knowing that you will invest the rest into Investment B)? (Enter a number): _____

7. Consider the following scenario:

Jim is the CEO of a company. He is about to release a new product, and his engineers have designed two versions of the product. Version 1 will make more money for the company, for Jim, and for his shareholders, but Version 2 will make his company look better to the public. Jim is carefully considering which version of the product to release.

What would you do in Jim's position? Why?

-I would release Version 1 because making money is the primary objective of a businessperson.

-I would release Version 2 because improving the company's image will help Jim and the company in the long run.

-I would release Version 1 because Jim has a duty to his shareholders to make as much money for the company as possible.

-I would release Version 2 because improving the company's image will cause consumers to buy more of the company's other products.

8. Consider the image below. Think about what you think is happening in the image. What do you think the story is behind the image?
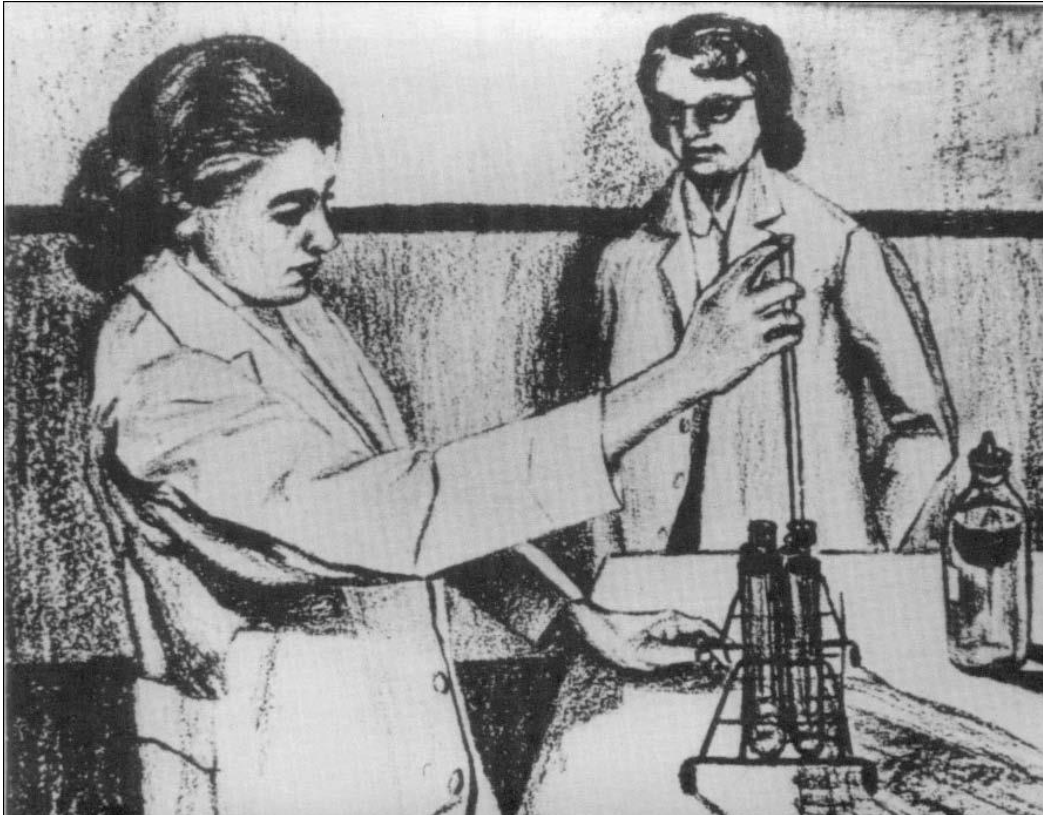
Below are three brief stories. Which one is most similar to what you think is happening in this image?

-The woman in the foreground is trying to look busy because her boss just entered the room and is looking at her.

-The woman in the foreground is showing the woman in the background how to do something.

-The two women are collaborative partners working on a project together.

9. Consider the following five words: ineffective, competent, fail, unsuccessful, unintelligent.
Which three words most naturally "go together" to make a coherent set?

10. Below are five terms that may or may not describe you well. We would like you to tell us how well you think each term describes you, compared to the average person. Before answering, think about people that you know, so that you have a baseline average to compare yourself to. Then, for each trait, tell us on a scale of 1 to 9 how well it describes you.

I am much less   I am much more
like this than   like this than
the average person   the average person

          1   2   3   4   5   6   7   8   9

Unintelligent _____

Incompetent _____

Ineffective _____

Talented _____

Efficient _____

Stanford-Grey Short-Form Competence Assessment: Results

The ten questions that you just answered are a standard psychological test called the Stanford-Grey Short-Form Competence Assessment. It is designed to assess the sophistication of how you think about concepts relating to competence (and incompetence) as well as your level of competent and incompetent behavior. In other words, it is a standard assessment of how well you can be described by personality traits such as intelligent, talented, and capable.

The original Stanford-Grey inventory was developed in 1992, and the short-form revision that you took was developed in 1998. Since then, it has been used in well over 200 psychological studies, most of them involving college undergraduates like you.

Like any psychological test, there is some degree of measurement error in the Stanford-Grey scale. In other words, it is not a perfectly accurate test, and any result is only an approximation. Nonetheless, it has been shown to be a valid and reliable measure of a person's analytical thinking, and to predict actual, real-world outcomes with reasonable accuracy.

We can compare your answers to those of the thousands of other people like you who have taken this personality assessment. In other words, we cannot say "you are X% competent", but we can say how competent or incompetent you are *compared to other people.*

Based on your answers, when compared to people of your sex/gender and approximate age, YOU ARE MORE COMPETENT THAN _____% OF OTHER PEOPLE, AND LESS COMPETENT THAN _____% OF OTHER PEOPLE.

The sophistication of your thinking is:

Relatively Low   About Average   Relatively High

Your level of competent behavior is:

Below Average   About Average   Above Average

Personality Assessment

Instructions: Write or circle your answers to the questions below.

1. How many hours a week do you spend at parties or similar social gatherings? (Enter a number): _____

2. When was the last time you made a new friend? (Enter the number of weeks ago that you last made a new friend): _____

3. Imagine that an acquaintance of yours asks you to lunch. What would you be most likely to do?
-Flat-out turn down the offer and not go
-Come up with a polite reason to turn down the offer
-Accept the offer and suggest a good restaurant
-Go, but reluctantly
-What I would do would depend on how busy I was

4. Suppose that someone you are only moderately friendly with invites you to a party where you would not know anyone besides them. How likely would you be to go?
-Very unlikely
-Unlikely
-Somewhat unlikely
-Somewhat likely
-Likely
-Very likely

5. How many close friends do you have? (Enter a number): _____

6. Suppose you have $100 and you are deciding how to spend it. You are going to split it between buying food and drinks during a night out with friends, and buying yourself something new that you have been wanting for some time. How much would you spend on the dinner (knowing that you will spend the rest to buy yourself something new)? (Enter a number): _____

7. Consider the following scenario:

Jim has been invited to two events on Saturday night. The first event is a board game night with three of his close friends. The second event is a party with a large number of friends that he is a bit less close with. Jim is considering which event to go to.

What would you do in Jim's position? Why?
-I would go to the party because I like large social gatherings.
-I would go to the board game night because I prefer to spend time with smaller groups of people.

-I would go to the party because I am more likely to meet someone new there than I would be at board game night.
-I would go to the board game night because I would rather be with my closest friends, even if there are fewer people total.

8. Consider the image below. Think about what you think is happening in the image. What do you think the story is behind the image?

Below are three brief stories. Which one is most similar to what you think is happening in this image?
-The boy is waiting for his friends to arrive so that they can play together.
-The boy is lonely, and is watching other children play in the distance.
-The boy does not like the other children in his neighborhood, so he is playing by himself.

9. Consider the following five words: shy, outgoing, withdraw, introverted, cold.
Which three words most naturally "go together" to make a coherent set?

10. Below are five terms that may or may not describe you well. We would like you to tell us how well you think each term describes you, compared to the average person. Before answering, think about people that you know, so that you have a baseline average to compare yourself to. Then, for each trait, tell us on a scale of 1 to 9 how well it describes you.
1 = I am much less like this than the average person
5 = I am about average on this term
9 = I am much more like this than the average person.

I am much less   I am much more
like this than   like this than
the average person   the average person

 | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Introverted _____

Unfriendly _____

Cold _____

Easy-Going _____

Sociable _____

Stanford-Grey Short-Form Sociability Test: Results

The ten questions that you just answered are a standard psychological test called the Stanford-Grey Short-Form Sociability Assessment. It is designed to assess the sophistication of how you think about concepts relating to sociability (and unsociability) as well as your level of sociable and unsociable behavior. In other words, it is a standard assessment of how well you can be described by personality traits such as likable, cheerful, and friendly.

The original Stanford-Grey inventory was developed in 1992, and the short-form revision that you took was developed in 1998. Since then, it has been used in well over 200 psychological studies, most of them involving college undergraduates like you.

Like any psychological test, there is some degree of measurement error in the Stanford-Grey scale. In other words, it is not a perfectly accurate test, and any result is only an approximation. Nonetheless, it has been shown to be a valid and reliable measure of a person's interaction style, and to predict actual, real-world sociable behavior with reasonable accuracy.

We can compare your answers to those of the thousands of other people like you who have taken this personality assessment. In other words, we cannot say "you are X% sociable", but we can say how sociable or unsociable you are *compared to other people.*

Based on your answers, when compared to people of your sex/gender and approximate age, YOU ARE MORE SOCIABLE THAN _____% OF OTHER PEOPLE, AND LESS SOCIABLE THAN _____% OF OTHER PEOPLE.

The sophistication of your social interaction style is:

Relatively Low   About Average   Relatively High

Your level of sociable behavior is:

Below Average   About Average   Above Average

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