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More than a Body: Mind Perception and the Nature of Objectification

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Abstract

According to models of objectification, viewing someone as a body induces de-mentalization, stripping away their psychological traits. We present evidence for an alternative account where a body focus does not diminish the attribution of all mental capacities, but instead leads perceivers to infer a different kind of mind. Drawing on the distinction in mind perception between agency and experience, we find that focusing on someone's body reduces perceptions of agency (self-control and action), but *increases* perceptions of experience (emotion and sensation). These effects were found when comparing targets represented by both revealing vs. non-revealing pictures (Experiments 1, 3 and 4) or by simply directing attention towards physical characteristics (Experiment 2). The effect of a body focus on mind perception also influenced moral intuitions, with those represented as a body seen to be less morally responsible (i.e., lesser moral agents), but more sensitive to harm (i.e., greater moral patients; Experiments 5 and 6). These effects suggest that a body focus does not cause objectification per se, but instead leads to a *redistribution* of perceived mind.

Keywords: Morality, Dehumanization, Faceism, Stereotypes, Pornography, Dualism,  
Sexism

## More than a Body: Mind Perception and the Nature of Objectification

Do people's mental capacities fundamentally change when they remove a sweater? This seems absurd: How could removing a piece of clothing change one's capacity for acting or feeling? In six studies, however, we show that taking off a sweater – or otherwise revealing flesh – can significantly change the way a mind is *perceived*. In this article, we suggest that the kind of mind ascribed to another person depends upon the relative salience of his or her body– that the perceived capacity for both pain and planned action depends on whether someone wears a sweater or tank-top.

## Objectification

Philosophers, psychologists and feminist theorists have all debated whether focusing on someone's body can influence how his or her mind is perceived. Centuries ago, Immanuel Kant (1780) argued that “sexual love makes of the loved person an Object of appetite; as soon as that appetite has been stilled, the person is cast aside as one casts away a lemon which has been sucked dry.” In other words, recipients of sexual desire are seen only as a means to achieve satisfaction. Kant's proposal has been adopted and extended by contemporary feminist scholars who argue that objects of sexual desire are seen as mindless physical objects—a phenomenon known as *objectification*. The crux of objectification is that the perceiving someone in a sexual context – such as in pornography – leads people to focus on physical characteristics at the expense of

their mental and moral status (Dworkin, 1985; Fredrickson & Roberts, 1997; MacKinnon, 1988; Nussbaum, 1995). In one discussion, for example, Nussbaum (1995) outlines a number of components of objectification, among them “denial of autonomy,” which is failing to ascribe the capacity for choice and self-determination; “inertness,” which is failing to ascribe the capacity for agency and action; and “denial of subjectivity,” which is failing to ascribe the capacity for experience and feelings. In all of these regards, it appears that sexualizing people leads to reduced perceptions of mind.

Objectification usually centers on women and is easy to spot in our culture. In one large scale study of magazine advertisements, researchers found that women's bodies are prominently displayed, whereas men are more often pictured by their faces (Archer, Iritani, Kimes, & Barrios, 1983). Such “face-ism” has significant effects on perceptions of mind, as people depicted by body prominent photographs are seen to be less intelligent, ambitious, competent and likable (Archer et al., 1983; Schwarz & Kurz, 1989). Simply focusing on someone's physical appearance can also reduce perceived competence and mind, extending to decreased perceptions of pain sensitivity, emotion and even moral status (Heflick & Goldenberg, 2009; Loughnan, Haslam, Murnane, et al., 2010). Similarly, neuroimaging studies find that, for some men, pictures of sexualized women induce less activity in brain

regions associated with mental state attribution (Cikara, Eberhardt, & Fiske, 2010). Such sexualizing can also impact women's behavior, as those who receive a body-focused "objectifying gaze" – a long look up and down from a man – performed worse at a math exam (Gervais, Vescio, & Allen, 2011)

While the bulk of research on objectification is linked to sexualizing, it is also possible to de-mentalize others without the presence of sexual desire. In fact, research finds that those who evoke the opposite response of sexual attraction – disgust – are also de-mentalized (Harris & Fiske, 2006). One can also objectify oneself (Fredrickson & Roberts, 1997; Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998), and for women, such self-objectification is linked with disordered eating, cognitive distraction (Fredrickson et al., 1998), depression (Szymanski & Henning, 2006; Tiggemann & Kuring, 2004), and even self-harm (Muehlenkamp, Swanson, & Brausch, 2005). The lesson about objectification seems clear: thinking of someone as a body reduces ascriptions of mind.

#### Two Dimensions of Mind

The research and theorizing so far on the nature of objectification presupposes that mind perception can be understood in terms of a single underlying continuum where an entity falls somewhere between no mind (like an inanimate object) and full mind (like a normal human being) (but see Loughnan, Haslam, Murnane, et al., 2010; Nussbaum, 1995). According to this model, objectifying a person means shifting that person a few notches down

the continuum, away from full-fledged personhood and toward inanimacy as a mere object—less agency, less autonomy, less capacity for subjective experience, and so on.

Recent research indicates, however, that minds are perceived along two dimensions, not one. In one study, participants were asked to evaluate the various mental capacities of a number of different entities, including people, animals, and supernatural agents (Gray, Gray, & Wegner, 2007). These mental capacities were submitted to a factor analysis that revealed two dimensions of mind perception: Agency and Experience. Agency is the capacity to act, plan and exert self-control, while Experience is the capacity to feel pain, pleasure and emotions. These two dimensions of mind perception parallel the two-fold structure of other concepts in social cognition, most notably humanness (Uniquely human & Human nature; Haslam, 2006; Haslam, Loughnan, Kashima, & Bain, 2008), the content of stereotypes (Competence & Warmth; Fiske, Cuddy, & Glick, 2007; Judd, James-Hawkins, Yzerbyt, & Kashima, 2005), and personality (Dominance & Nurturance; Wiggins & Broughton, 1991).

This two-dimensional structure of mind perception suggests that past work on objectification is incomplete, as this research has focused almost exclusively on Agency related traits such as competence, intelligence and ambition (e.g., Archer et al., 1983; but see Loughnan, Haslam, Murnane, et al., 2010). Here, we examine the effect of focusing on the body for the ascription of both agency and experience.

Consistent with previous research, we expect that a body focus will reduce perceptions of agency, but importantly, we suggest that a body focus will *increase* perceptions of experience. Although, at first glance, this prediction appears to contradict much theorizing on objectification, there is ample evidence for a link between experience and the body.

#### Experience and the Body

When people feel emotions, their bodies are intimately involved. Hands tremble with fear, stomachs churn with love, and fists clench with rage. Experimental evidence confirms that emotions are embodied, routinely relying on interoceptive feelings from the core of the body for their experience (Lindquist & Barrett, 2008; Niedenthal, Barsalou, Winkielman, Krauth-Gruber, & Ric, 2005). Indeed, simply smiling can make jokes funnier (Strack, Martin, & Stepper, 1988) and temporarily paralyzing faces with botox can reduce the experience of emotion (Davis, Senghas, Brandt, & Ochsner, 2010).

This link between the body and emotion exists not only for feeling emotions but also for emotion perception, whereby people seem willing to ascribe the capacity for experience only to entities with flesh. For example, people may be willing to ascribe entities such as computers and robots mental capacities such as “belief” or “knowledge”, but without flesh, people are reluctant to ascribe them capacities for happiness or pain (Gray et al., 2007; Huebner, 2009). People are similarly unwilling to ascribe experience to a disembodied God (Gray &

Wegner, 2010a) or to corporations, which despite being composed of many people, lack a bodies themselves (Arico, 2010; Huebner, Bruno, & Sarkissian, 2009; Knobe & Prinz, 2008). The most likely reason for this perceived link between bodies and experience is that most of our experiences are mediated by physical organs, whether skin (e.g., pain/pleasure), nose (e.g., disgust), eyes (e.g., conscious vision), or the loins (e.g., desire).

As biological bodies are linked to perceptions of experience (Knobe, 2008), it may be that simply focusing on someone’s body or flesh causes people to see that person more in terms of experience. But why would focusing on a body both increase perceptions of experience and decrease perceptions of agency? Common-sense dualism suggests an explanation. This is the notion that people intuitively think of minds and bodies as distinct, or even opposite (Bloom, 2004; Demertzi et al., 2009; Gray, Knickman, & Wegner, in press). If these two perspectives are in opposition, then it suggests that the more you focus on someone’s body, the less you perceive them to have any mind at all. At first, such dualism seems to support the standard objectification claim – mind versus mindless body – however, the link between body and experience suggests that the conflict might instead be between an agentic mind versus an experiential body.

In other words, rather than a conflict between a physical object and an immaterial soul, dualism may be a conflict between rational agency (“mind”) and the

seething passions of experience (“body”). People may thus have a tendency to view someone as capable of *either* agency *or* experience, as either someone capable of thinking, or as someone capable of feeling. So while the dimensions of agency and experience are normally orthogonal, these dimensions may become inversely related when conceiving someone as a “mind” or as a body. Such an opposing relation between agency and experience has been uncovered in various other domains, including the moral domain (moral typecasting - Gray & Wegner, 2009, 2010b, 2011a) and the stereotyping literature (Fiske et al., 2007; Judd et al., 2005; Kervyn, Yzerbyt, Judd, & Nunes, 2009). In these studies, there is often an explicit or implicit comparison between another social group (e.g., Judd et al., 2005) or another moral entity (e.g., Gray & Wegner, 2009) that helps to induce this compensatory relation. We suggest that dualism sets up an intuitive comparison – and opposition – between the agentic mind and experiencing body.

The idea that a body focus can lead to both decreased and increased mind stands in contrast to the term “objectification,” because it suggests that people seen as bodies are not seen as mindless objects but instead as experiencers – someone more capable of pain, pleasure, desire, sensation and emotion, but lacking in agency. In other words, focusing on the body does not lead to de-mentalization but to a *redistribution* of mind.

If a body-focus leads to a redistribution of mind – in which the total amount of perceived mind remains the

same despite being reallocated between the two dimensions – it would not only overturn traditional notions of objectification but would also have implications for the moral domain. Ascriptions of moral responsibility are linked to perceptions of agency (Gray et al., 2007), and so a body focus should decrease perceptions of moral responsibility. Alternatively, ascriptions of moral rights are linked to perceptions of experience (Gray et al., 2007; Regan, 1985), so if a body-focus increases perceived experience, it should also lead to a greater perceived entitlement to avoid harm. For example, one study found that the more an entity was perceived as capable of feeling pain, pleasure, fear and desire, the more it deserved to be protected from harm (Gray et al., 2007). Thus, if seeing someone as a body increases ascriptions of experience, it should also increase the conferral moral rights, not strip them away. Objectification, then, may not be objectification at all. Seeing someone as a body may simply lead to ascriptions of a different kind of mind, with different moral status.

#### The Present Research

In five experiments, we tested the redistribution of mind hypothesis, that men and women represented by their bodies seem less capable of agency (self-control and planning), but more capable of experience (sensitive to pain and emotion). Experiment 1 explored whether redistribution occurred when viewing pictures depicting targets by just their face or by their face and body. Experiment 2

investigated whether redistribution could be obtained with a manipulation of attention towards either the “mind” or the “body.” Experiment 3 tested whether redistribution of mind occurred with a more diverse participant pool and a larger set of targets. Experiment 4 investigated the role of sexually suggestiveness and attractiveness in attributions of mind, with the prediction that sexual suggestiveness should be linked to redistribution of mind. The final two studies examined the moral implications of the redistribution hypothesis. Experiment 5 tested whether focusing on the body increases relative perceptions of moral patiency, a person’s perceived capacity to be harmed at the hands of another, while also decreasing relative moral agency, a person’s perceived capacity to earn blame. Experiment 6 tested whether focusing on another’s body leads to increased moral status, whereby the exposure of skin causes people to protect others from the harm of electric shocks.

### **Experiment 1: Bodies vs. Faces**

This experiment investigated whether ascriptions of agency and experience depended on the relative salience of the body. Participants made ratings of agency and experience for targets – both a man and a woman – depicted either as a face, or as a face plus upper body. In line with previous research that used a similar methodology (e.g., Archer et al., 1983; Loughnan, Haslam, Murnane, et al., 2010), it was predicted that the target showing more body would be evaluated as having decreased agency (the capacity for self-control, planning and acting morally).

Importantly, it was also predicted that targets showing increased body would be seen to possess more experience (the capacity to feel pleasure, hunger and desire).

### **Method**

#### *Participants*

One-hundred and fifty-nine participants (82 female, *M*<sub>age</sub> = 23) were recruited in on-campus dining halls and compensated with the gratitude of the experimenter.

#### *Procedure and Materials*

Participants were given a questionnaire with a picture and a brief description of one of two targets – one female, one male. The female target’s description read:

This is Erin. She attends a liberal arts college in New England and majors in English. Outside of class, she is a member of a few student groups. On weekends, Erin likes to hang out with friends.

The male target’s description was identical, except the name was changed to Aaron and “she” was replaced with “he.” Above these descriptions were pictures of Erin/Aaron. In the *face* condition, this picture was of their faces, while in the *body* condition, this picture also included their upper body (Figure 1).

After reading the brief description, participants were tasked with evaluating the mental capacities of the target. Specifically, participants answered six questions, which took the form, “Compared to the average person, how much is Erin capable of X.” Substituting for the “X” were the agency-related

capacities of “self-control”, “acting morally” and “planning”, and the experience-related capacities of “experiencing pleasure”, “experiencing hunger”, and “experiencing desire”. These capacities were chosen because they represent capacities that load highly on their respective dimensions in Gray, Gray and Wegner (2007). Participants answered these six questions on a five point scale from “Much Less Capable” (1) to “Much More Capable” (5), with “Equally as Capable” (3) as the midpoint.

#### *Indices of Mind Perception*

Before analyzing perceptions of agency and experience, indices were constructed. The data from the six mind ratings questions were submitted to a factor analysis, which yielded two orthogonal factors with eigenvalues  $> 1$ . The first factor corresponded to agency and included self-control (rotated factor loading: .66), acting morally (.49) and planning (.79). The second factor corresponded to experience and included pleasure (.38), hunger (.74) and desire (.59). Thus, the agency capacities were averaged to form an agency index, and the experience capacities were averaged to form an experience index. The agency index had an alpha of .53, which is not high; however, previous research has validated the use of such a scale (Gray & Wegner, 2009), most recently with a confirmatory factor analysis (Gray, Jenkins, Heberlein, & Wegner, 2011). Reassuringly, all agency variables were significantly intercorrelated, mean  $r(157) = .28, p < .001$ . The experience index, however, had a much lower alpha of .21.

When the intercorrelations were examined, it was found that hunger had a negligible correlation with the other two variables ( $r_s < .1$ ) – possibly because the pictures used thin models. As desire and pleasure were significantly correlated  $r(157) = .23, p > .001$ , it was these two variables that composed the experience index.

#### Results and Discussion

The agency and experience indices were submitted to a 2 (capacity: agency, experience)  $\times$  2 (condition: *face*, *body*)  $\times$  2 (target: Aaron, Erin)  $\times$  2 (participant: male, female) within-between-subjects analysis of variance (ANOVA). The analysis revealed two significant two-way interactions, one as predicted between capacity (agency, experience) and condition (face, body),  $F(1,142) = 18.24, \eta^2 = .11$ , and also one between capacity (agency, experience) and target (Aaron, Erin),  $F(1,142) = 8.90, \eta^2 = .06$ . There were no significant sex differences or higher-order interactions.

Our interaction of interest was between capacity (agency, experience) and condition (face, body). Exploration of this interaction with simple effects confidence intervals found that targets depicted by their *body* were seen, as predicted, to have more experience ( $M = 3.65, SD = .69$ ) than *face* depicted targets ( $M = 3.38, SD = .69$ ),  $p < .01$ . *Body* depicted targets were also seen, as predicted, to have less agency ( $M = 2.90, SD = .49$ ) than those depicted by their *face* ( $M = 3.23, SD = .64$ ),  $p < .01$ . See Figure 2. These results support the hypothesis that focusing on the body does not involve complete de-

mentalization, but instead redistribution of mind, with decreased agency but increased experience.

Exploring the capacity by target interaction with simple effects confidence intervals found that Erin was seen to have more agency ( $M = 3.21$ ,  $SD = .52$ ) than Aaron ( $M = 2.91$ ,  $SD = .63$ ),  $p < .05$ , and Erin was seen as having somewhat less experience ( $M = 3.45$ ,  $SD = .52$ ) than Aaron ( $M = 3.59$ ,  $SD = .76$ ), though not significantly so,  $p < .20$ .

The results of this study provide evidence for the redistribution of mind hypothesis; the next study attempts to replicate this finding using a different method. While this study used different pictures to manipulate the salience of the body, the next study used the same pictures in each condition but manipulated perceiver attention by asking people to focus on either physical or mental characteristics of another person (such as in Heflick & Goldenberg, 2009). It was predicted that simply focusing on physical rather than mental characteristics would be enough to reduce perceptions of agency and increased those of experience.

### **Experiment 2: Smartness or Sexiness?**

Imagine evaluating pictures of people while you have one of two different mindsets. In the first mindset, you are on an online dating website, perusing pictures and looking to find someone attractive enough to date. In the second mindset, you are looking at pictures of potential job candidates, seeking someone professional-looking to hire. While each of these evaluations use a picture as the

basis, the first looks explicitly at physical characteristics, while the second uses these characteristics as an indicator of mental capacities. In other words, evaluating for attractiveness has an increased focus on the body and evaluating for professionalism has a decreased focus on the body. As the body is predicted to be linked to decreased agency and increased experience, focusing attention on physical, bodily characteristics should cause the redistribution of mind found in the previous experiment.

In this experiment, participants evaluated a series of pictured targets on either professionalism or attractiveness, and then compared targets on mind perception. It was predicted that those targets evaluated for attractiveness would be seen as relatively more capable of experience and less capable of agency than those targets evaluated for professionalism. This would provide additional evidence that focusing on the body does not lead to de-mentalization but instead to redistribution of mind.

#### Method

##### *Participants*

Twenty-eight participants (18 female,  $M_{age} = 26$ ) were recruited via SONA – an online study pool recruitment platform. Participants were compensated for the ½ hour study with \$5 or study credit.

##### *Procedure and Materials*

Participants were presented with pictures of faces of young women and asked to make evaluations of the women they pictured. Eighteen pictures were taken from a previously used facial set

(Barrett & Bliss-Moreau, 2009) and divided into 9 pairs, such that women within a pair were maximally similarly on attractiveness (a previous pilot test rated women on attractiveness). For each pair of women, participants evaluated one on professionalism by answering four questions, presented in a random order – “How knowledgeable is this woman?” “How efficient is this woman?” “How capable is this woman?” “How smart is this woman?” – on a five point scale from “Not at All” (1) to “Extremely” (5). Participants evaluated the other woman in the pair on attractiveness by answering the four questions – “How attractive is this woman?” “How sexy is this woman?” “How pretty is this woman?” “How cute is this woman?” – on the same five point scale.

This evaluation task served as our “mind”- or body-focused manipulation. After making those eight evaluations, participants made an additional six evaluations for each pair that examined relative perceptions of agency and experience. The questions asked, “Between Woman A and Woman B, who is more capable of X.” Capacities assessed were self-control, acting morally and planning, for agency; and experiencing pleasure, experiencing desire, and experiencing fear, for experience (fear replaced hunger, because of its poor intercorrelation in Study 1). Participants answered this question on a six point scale from “Definitely Woman A” (-2.5) to “Definitely Woman B” (-2.5), with a hypothetical midpoint of equality/indifference at zero.

It was predicted that the woman in the pair who was initially evaluated in terms of attractiveness would be seen to have relatively less agency and more experience than the woman who was initially evaluated in terms of professionalism. To ensure this effect was not due to some preexisting difference between pictures, there were two different orders, between-subjects. In order 1, one woman in the pair was evaluated on professionalism and the other on attractiveness; in order 2, the evaluations were switched. It was predicted that, across pairs, the same pairs of women would be seen differently in terms of agency and experience depending on the order/mindset induced.

#### *Indices of Mind Perception*

To test the cohesiveness of agency and experience across targets, individual capacities were first averaged across pairs of women. Self-control, acting morally and planning were then combined into an agency index ( $\alpha = .55$ ), and feeling pleasure, fear and desire were combined into an experience index ( $\alpha = .53$ ). Note that this alpha is much higher than in the previous study.

#### Results and Discussion

Indices of agency and experience provided relative judgments within picture pairs of perceptions of mind, and were submitted to a 2 (capacity: agency, experience) x 2 (order: one, two) x 2 (participant: male, female) mixed within-between-subjects ANOVA. Only one significant interaction was revealed; it was the predicted interaction between mental capacity and order,  $F(1,24) = 16.47$ ,  $\eta^2 = .41$ , suggesting that the relative

evaluations of the mental capacities of agency and experience depended upon which mindset participants used to evaluate each woman within a pair (Figure 3). Simple effects confidence intervals revealed that when Woman B was evaluated for attractiveness, she was seen to have relatively less agency ( $M = -.11$ ,  $SD = .17$ ) than when she was evaluated for professionalism ( $M = .13$ ,  $SD = .26$ ),  $F(1,24) = 8.19$ ,  $p < .01$ . When Woman B was evaluated for attractiveness, she was also seen to have relatively more experience ( $M = .07$ ,  $SD = .19$ ) than when she was evaluated for professionalism ( $M = -.19$ ,  $SD = .19$ ),  $F(1,24) = 11.02$ ,  $p < .01$  (Figure 3). Because these were relative judgments, the findings for Woman A are the same, only reversed.

These data provide support for the redistribution of mind and the general conflict between conceiving of people as both rational minds and bodies with seething passions. Evaluating people with a “physical” body focused mindset makes them seem relatively less agentic and more experiential. On the other hand, evaluating other with a mindset less focused on the body makes them seem relatively more agentic and less experiential. In the next study, we examine a broader sample of targets to test the robustness of these findings.

### **Experiment 3: A Feast of Flesh**

Through two experiments, we have found that focusing on a body leads to a redistribution of mind – decreased ascriptions of agency and increased perceptions of experience. Each of these previous two studies has limitations,

however. Experiment 1 used only one female and one male target to assess mind perception, while Experiment 2 used comparative measures of mind. Furthermore, both these experiments used reasonably truncated scales to assess mind perception. In this experiment we use a more comprehensive design to examine whether the salience of flesh serves to redistribute mind. Specifically, participants were presented with one of ten targets, pictured either naked or clothed, and are asked to rate 12 mental capacities (6 agency-related, 6 experience-related). These pairs of pictures were taken by a professional photographer and are tightly controlled for posture, expression and lighting – only the presence of clothing varies between them. We predicted that, relative to the clothed targets, the naked targets would be ascribed less agency but more experience.

#### **Method**

##### *Participants*

565 participants (47% female,  $M_{age} = 31$ ) were recruited from a variety of countries (including the US, France, Saudi Arabia, the Philippines, and Pakistan) through Amazon’s Mechanical Turk (MTurk), which has been shown to provide high quality data from a relatively diverse sample (Buhrmester, Kwang, & Gosling, 2011). Thirty-eight participants were excluded for failing the manipulation check – they incorrectly answered whether the person they saw was clothed or naked, and male or female. This was done to eliminate people who blindly clicked through the survey for payment.

##### *Procedure and Materials*

Participants received 10¢ for their participation in a 4 minute survey entitled "Rating People in Pictures." Upon coming to the survey, participants were presented with one of twenty pictures taken from a book that presents standard clothed portraits of adult film stars, each of which is matched with an identical portrait of the same person shown naked (Greenfield-Sanders, 2005). These carefully matched photographs enabled us to control for everything other than the appearance of flesh, including lighting, posture and facial expressions. For this study, we selected 10 pairs of pictures (5 men, 5 women), each of which featured subjects from the thighs or waist up, looking into the camera. In order to make the picture less explicit, a box was put around the "key elements" and a Gaussian blur of radius 150 was performed on the contents (Figure 4).

Participants saw a single photograph of one person who was either naked or clothed. They were then asked to rate this person's mental capacities as in Experiment 1 by answering twelve questions with the following beginning: "Compared to the average person, how much is this person capable of X." In the place of "X" were 6 agency-related words (self-control, acting morally, planning, communication, memory, and thought) and 6 experience-related words (feeling pain, feeling pleasure, feeling desire, feeling fear, feeling rage, feeling joy) (Gray et al., 2007). Participants also rated the attractiveness of the target.

#### *Indices of Mind Perception*

The agency items were averaged to obtain an agency index ( $\alpha = .83$ ); the experience items were averaged to obtain an experience index ( $\alpha = .56$ ). The reliability of this index is still low, but it is somewhat higher than the previous studies, likely owing to the inclusion of more items.

#### Results and Discussion

Agency and experience indices were submitted to a 2 (capacity: agency, experience)  $\times$  2 (condition: *clothed*, *naked*)  $\times$  2 (target sex: male, female)  $\times$  2 (participant sex: male, female) within-between-subjects analysis of variance (ANOVA), where mental capacity was analyzed within, and all other variables were analyzed between. There was a main effect of mental capacity,  $F(1,519) = 20.54$ ,  $p < .001$ ,  $\eta^2 = .04$ , with more overall experience ( $M = 3.23$ ,  $SD = .48$ ) being ascribed to targets than agency ( $M = 3.09$ ,  $SD = .64$ ). Importantly, this was qualified by the predicted interaction between ratings of mental capacities and condition (*clothed*, *naked*),  $F(1,519) = 51.09$ ,  $p < .001$ ,  $\eta^2 = .09$ . Exploring this interaction with simple effects confidence intervals found that *naked* targets were seen, as predicted, to have more experience ( $M = 3.28$ ,  $SD = .50$ ) than *clothed* targets ( $M = 3.18$ ,  $SD = .46$ ),  $p < .05$ . *Naked* targets were also seen, as predicted, to have more to have less agency ( $M = 2.92$ ,  $SD = .58$ ) than those *clothed* targets ( $M = 3.26$ ,  $SD = .65$ ),  $p < .01$ . See Figure 4.

No other interactions with mental capacity were significant ( $ps > .1$ ), however there were between-subject effects with respect to the average amount

of mind ascribed to targets. Because perceived decreases in agency for *naked* targets were greater than perceived increases in experience, there was an overall less mind ascribed to *naked* targets ( $M = 3.10, SD = .51$ ) than to *clothed* targets ( $M = 3.22, SD = .55$ ),  $F(1,519) = 11.06, p < .01, \eta^2 = .02$ . It is important to remember that this is qualified by the interaction between agency/experience and condition, however, and that that interaction accounted for more than four times as much variance (as given by  $\eta^2$ ) as the main effect of skin. There was also a main effect of target sex, such that female targets ( $M = 3.20, SD = .48$ ) were ascribed *more* overall mind than male targets ( $M = 3.12, SD = .59$ ),  $F(1,519) = 4.64, p < .05, \eta^2 = .01$ . There was also an apparent interaction between condition (*clothed, naked*), sex of target and sex of participant,  $F(1,519) = 3.85, p = .05, \eta^2 = .01$ . Although the simple effects are not significant, it appears that women gave more mind to clothed female targets than to naked female targets, but more mind to naked male targets than to clothed male targets. The exact opposite occurred for men, as they gave more mind to clothed men than to naked men, but more mind to naked women than to clothed women. Reasons for this may be many – perhaps seeing the opposite sex naked induces mind perception, though this would be a departure from much previous theorizing (e.g., Nussbaum, 1995).

Finally, there was an effect of attractiveness, such that the more attractive people rated a target, the more participants ascribed both agency,  $r(525)$

$= .23, p < .01$ , and experience,  $r(525) = .20, p < .01$ . This finding is noteworthy, as it suggests that although judgments of attractiveness use a bodily focus, the property of being attractive actually confers mind, perhaps because of a halo effect related to the “beautiful is good” heuristic (Asch, 1946; Dion, Berscheid, & Walster, 1972; Eagly, Ashmore, Makhijani, & Longo, 1991)

Overall, the results of this study support the hypothesis that focusing on the body induces a redistribution of mind, with decreased agency and increased experience. This increased perceptions experience is weaker than found in the previous two studies. One possibility for this reduced effect is the potentially sexual suggestiveness of these pictures. Although targets were not in erotic poses, and ranged in attractiveness (and gender), their complete nakedness may be seen as suggestive. As some accounts of objectification emphasize the importance of sexualizing targets (e.g., Moradi & Huang, 2008; Nussbaum, 1995), it may be that sexually suggestive targets in particular are de-mentalized. In other words, while a bodily focus may generally induce a redistribution of mind, sexualizing a body may reduce perceptions of both agency and experience. In the next study, we examine the role of sexual suggestiveness on perceptions of mind.

#### **Experiment 4: Sexualized Minds**

The first three experiments suggest that thinking of someone as a body decreases perceptions of agency and increases perceptions of experience.

Although these effects appear to operate without significant sexual attraction (Experiments 1, 2 and 3 used both men and women for participants and targets), past theorizing has emphasized the sexual nature of objectification. Specifically, it has been suggested that perceiving people in a sexual context should completely demoralize them (Kant, 1780; Nussbaum, 1995). On the other hand, it may be that those who are sexualized demonstrate redistribution of mind – when sexually suggestive, a body may be seen to feel experience even more.

In this experiment, participants rated the agency and experience of the same woman pictured either with her clothes on, naked but not sexualized, or naked and in a sexual pose. The prediction was that across the three conditions, suggestiveness would increase and this increase in suggestiveness would map on to decreased perceptions of agency and also *increased* perceptions of experience.

#### Method

##### *Participants*

Sixty-seven participants (38 female,  $M_{age} = 20$ ) were recruited as in Study 1. One participant was excluded for failing to complete the questionnaire.

##### *Procedure and Materials*

Participants were given a questionnaire with one of three pictures of the same woman (Figure 5), two of them taken from the same book of portraits used in Experiment 3 (Greenfield-Sanders, 2005). These two pictures corresponded to the *clothed* condition and the *naked* condition, as in Experiment 3. The picture for the *sexual* condition was taken from a

cover of an adult film in which this woman had a starring role. Below the picture, participants were told “Although you know little about the person in the picture, please do your best to answer the following questions.”

Participants then evaluated mind perception similarly to Experiment 1, evaluating the target’s capacity for self-control, acting morally, planning, experiencing fear, desire and pain, on the identical scales. Participants then flipped the page and answered two more questions before answering demographic questions. The first question asked “How sexually suggestive is the picture on the other side of the page?” and the second asked “How attractive is the person in the picture?” Each of these questions was answered on a five point scale from “Not at All” (1) to “Extremely” (5).

Self-control, acting morally and planning were combined into an agency index ( $\alpha = .54$ ). Feeling desire, pain and fear were combined into an experience index ( $\alpha = .67$ ).

#### Results and Discussion

The agency and experience indices were submitted to a 2 (capacity: agency, experience) x 3 (condition: *clothed*, *naked*, *sexual*) x 2 (participant: male, female) within-between-subjects analysis of variance (ANOVA). Only one significant interaction was revealed; it was the predicted interaction between mental capacity and condition,  $F(2,63) = 4.57, p < .05, \eta^2 = .13$ , suggesting that being clothed versus naked versus sexualized had a different effect on attribution of agency than it did on attributions of experience.

Simple effects tests were performed within mental capacity (i.e., for agency and experience), between conditions. Looking across conditions found that experience ascription varied significantly between the *clothed*, *naked*, and *sexual* versions of the questionnaire,  $F(2,59) = 3.762$ ,  $p < .05$ , (Figure 6). Follow-up least significant difference (LSD) tests found that in the *sexual* version, the target was seen to have significantly more experience ( $M = 3.45$ ,  $SD = .62$ ) than in the *clothed* version ( $M = 2.91$ ,  $SD = .74$ ),  $p < .005$ . The *naked* version was not significantly different from other versions ( $M = 3.18$ ,  $SD = .64$ ),  $p > .20$ .

Looking across conditions finds that agency ascription varied somewhat between the *clothed*, *naked*, and *sexual* versions of the questionnaire,  $F(2,63) = 2.23$ ,  $p = .12$ , (Figure 6). Follow-up least significant difference (LSD) tests found that in the *sexual* version, the target was seen to have significantly less agency ( $M = 2.58$ ,  $SD = .53$ ) than in the *clothed* version ( $M = 2.92$ ,  $SD = .62$ ),  $p < .05$ . The *naked* version was not significantly different from other versions ( $M = 2.76$ ,  $SD = .53$ ),  $p > .35$ .

Though the simple-effects tests were not all significant, the pattern of the data match the findings of Experiment 1. In addition to the effect of experimental condition, the link between sexual suggestiveness and mind perception can be assessed by correlating ratings of agency and experience with suggestiveness. These analyses revealed that, as predicted, when suggestiveness goes up, perceptions of agency go down,

$r(63) = -.37$ ,  $p < .005$ , and perceptions of experience go up,  $r(63) = .42$ ,  $p < .001$ . Consistent with the previous study, perceived attractiveness was linked to increased perceptions of agency,  $r(63) = .36$ ,  $p < .005$ . Diverging from the previous study, perceived attractiveness was not linked to perceptions of experience,  $r(63) = .04$ ,  $p > .7$ .

These data demonstrate that sexual suggestiveness is linked to decreased perceptions of agency but increased perceptions of experience, suggesting that sexualizing people does not lead to objectification, but instead to a redistribution of mind. The next study examines whether such redistribution of mind can influence moral judgments.

### **Experiment 5: Mindsets and Morality**

Results from the previous experiments suggest that the more people see someone as a “body,” the less they ascribe agency and the more they ascribe experience. This appears to be the case whether such body-centered mindset is accomplished through the exposure of additional skin or simply shifting evaluation contexts. In this experiment, we further test this effect by examining whether body- or mind-centered mindsets influence moral judgments.

Research suggests that mind perception is tightly linked to morality (Gray & Wegner, 2011b; Waytz, Gray, Epley, & Wegner, 2010). Perceiving another person to having agency casts them as a *moral agent*, someone capable of earning blame for evil and praise for good (Gray et al., 2007; Gray & Wegner, 2009).

Agency is necessary to be a moral agent because only someone with the capacity for self-control and planning can be truly responsible for his or her actions and hence blameworthy or praiseworthy (Heider, 1958; Malle, Guglielmo, & Monroe, in press).

If agency allows for moral responsibility, then experience allows for harm. Perceiving another person to have experience casts them as a *moral patient*, someone capable of feeling pain from harm and pleasure from help. By virtue of their capacity to feel pain and pleasure, moral patients deserve protection from harm, and moral rights more generally (Loughnan, Haslam, & Bastian, 2010). Much of the debate on animal rights, for instance, revolves around the capacity of animals to have awareness or feel pain (Regan, 1985).

The link between mind perception and morality – between agency and blameworthiness, and experience and capacity for harm – suggests that perceiving someone as a “body” should not only decrease blameworthiness but also increase potential perceptions of harm. Likewise, perceiving someone as more of a rational “mind” should increase blameworthiness and decrease perceptions of harm. In the current study, we presented participants with two targets, one initially characterized as more of a body, the other as more of a mind. Participants then read two separate vignettes in which both targets were either harmed or did something wrong. It was predicted that in evaluations, the target initially characterized as a body

would be seen as relatively less blameworthy and relatively more capable of harm than the target initially characterized as a “mind”.

## Method

### *Participants*

Eighty-three participants (48 female, Mage = 28) were recruited and compensated as in Experiment 1.

### *Procedure and Materials*

Participants were given a questionnaire with a brief description of two targets, Michael and Jeffrey. Michael was the “body” target, while Jeffrey was the “mind” target. The descriptions read

Michael: Michael is from Minneapolis. He was born with double jointed wrists and type A-blood. Taking his pulse, you would find that his heart beats at about eighty beats/minute.

Jeffrey: Jeffrey is from St. Louis. He remembers names by associating other words with them. When he is trying to drive somewhere new, he creates a mental map in his mind.

After reading these descriptions, participants read two scenarios featuring Jeffrey and Michael. In the first scenario, they both walk out of a restaurant without paying and participants were asked that if “one of them deserved more blame,” who would it be? This question served as our assessment of moral agency (blameworthiness). In the second scenario, Michael and Jeffrey both attacked by a mugger and participants were asked that if “one of them suffered more harm at the hands of the mugger,”

who would it be? This question served as our assessment of moral patiency (capacity to be harmed). Participants responded to questions on the same six point scale, which ranged from “Definitely Michael” (-2.5) to “Definitely Jeffrey” (2.5). Such forced-choice paradigms have been used in previous research on moral typecasting and tend to correlate well with other measures (Gray & Wegner, 2009).

#### Results and Discussion

The prediction was that Jeffrey, the “mind” target, would be seen as significantly more blameworthy and less capable of being harmed, than Michael, the “body” target. This would be indicated by a significantly positive value for the moral agency question and significantly negative value for the moral patiency question. Therefore, the data from the moral agency question and the moral patiency question were submitted to separate one-sample *t*-tests with a test value of ‘0,’ the hypothetical midpoint of the scale. As predicted, the value of the moral agency question was positive ( $M = .34, SD = 1.20$ ),  $t(82) = 2.60, p < .05$ , and the value of the moral patiency question was negative ( $M = -.42, SD = 1.20$ ),  $t(82) = 3.15, p < .01$ . These data suggest that relative to the complementary mindset, a “body” mindset increases perceptions of moral patiency and decreases perceptions of moral agency, while a “mind” mindset decreases perceptions of moral patiency and increases perceptions of moral agency, consistent with the redistribution of mind hypothesis. Of course, this experiment is limited by its hypothetical nature. To further explore the link between

redistribution of mind and morality, the next experiment used a laboratory method with a measure of real moral behavior: the administration of electric shocks.

#### Experiment 6: Skin and Shocks

Many have remarked on the drawbacks of treating someone like a body (Archer et al., 1983; Breines, Crocker, & Garcia, 2008; Fredrickson & Roberts, 1997; Nussbaum, 1995). We suggest that there are positive aspects as well. The previous five experiments found that a body-focus leads to increased perceptions of experience and an increased perceived capacity for harm. This increased perceived sensitivity to harm in someone may lead others to protect this person from additional pain, suggesting that in certain regards “bodies” may have more moral status, not less. This experiment tested that hypothesis by having participants ostensibly administer electric shocks to a confederate who was either depicted as more or less of a body. Specifically, male confederates were pictured with either more or less skin showing, and it was predicted that confederates showing more skin would be shocked fewer times.

#### Method

##### *Participants*

Thirty-nine participants (21 female,  $M_{age} = 25$ ) were recruited via SONA. Participants were compensated for the 1 hour study with \$10 or study credit. Four participants were excluded from data analysis – two because of suspicion, two because they quit rather than have to shock another person.

##### *Procedure and Materials*

Participants briefly saw one of two male confederates in the waiting area and then were seated in an individual testing room. It was explained to them that we were studying psychophysical perception in pairs and that they would be administering to their partner a variety of psychophysical tasks. Most of the tasks were innocuous (e.g., dot counting, pitch judgment), but one task was called “discomfort assessment” and involved uncomfortable electric shock. Participants tried each of the tasks once, including the discomfort assessment. The shock they received was individually calibrated for each person to be “very uncomfortable.” It was typically between 40-75V and was applied to the wrist with silver-chloride electrodes. Participants received the shock to ensure they knew what they would ostensibly be administering to their partner. For a more detailed methodology, see Gray & Wegner (2008) – the notable difference is that here participants are administering the tasks instead of receiving them.

During the experiment, the participant’s job was to pick between one of two potential tasks for the confederate (e.g., “dot counting” versus “discomfort assessment”). Of interest was how many times participants chose to shock participants when it was an option. Participants were told that we were very much interested in the “discomfort assessment” task, and that we wanted them to assign a reasonable number of electric shocks. In order to guard against suspicion, participants were told that, in contrast to previous harmful studies (i.e.,

the Milgram (1963) study), their goal was to *protect* participants. Their task was to administer as many shocks as possible that would be “safe,” based on their impression of the other person. To facilitate this impression, we told them that we would be taking Polaroid pictures of both them and the confederate, and switching them so that they could see their partner.

We snapped a picture of the participant and took it into the confederate’s room. There, we pretended to snap another picture, but actually selected one of two pre-taken pictures of the confederate. The first picture had him dressed in his normal clothes (*shirt* condition), and the second had him shirtless (*skin* condition). In both cases, it was explained that he had a few electrodes attached to his wrist and chest – ostensibly measure his physiological state, but in reality to justify his potential shirtlessness. The experimenter then placed the picture next to the monitor of the experiment and then started the experimental trials. Importantly, the pictures were carefully matched in terms of expressions, lighting and posture (Figure 7). Results were the same for each confederate.

Our measure of harm was how many times, out of a potential 40 times in which “discomfort assessment” was an option, participants administered electric shocks to the confederate.

At the conclusion of the study participants answered a brief questionnaire with demographics and three questions. The first question was a

manipulation check and asked participant's relative body-mind mindset. It asked "I think of my partner in terms of..." and participants answered on a seven point scale from "Definitely their body" (-3) to "Definitely their mind" (3) with "Neither" (0) as the midpoint. The following two questions assessed liking towards the partner, and asked "How nice do you think your partner is?" and "How much respect do you hold for your partner?" These questions were answered on a five point scale from "None/Not at All" (1) to "Extreme/Extremely" (5). Finally, participants were debriefed with the funneled procedure recommended by Chartrand and Bargh (2000).

#### Results and Discussion

The manipulation check was submitted to an independent-samples *t*-test, with condition (*shirt/skin*) as the independent variable. As predicted, the confederate was seen as more of a body (less of a mind) in the *skin* condition ( $M = -.15, SD = 1.37$ ) than in the *shirt* condition ( $M = 1.5, SD = 1.20$ ),  $t(33) = 2.23, p < .05$ . The liking variables were averaged together,  $r(33) = .62, p < .01$ , and were submitted to the same *t*-test, which found no significant effect of condition,  $t(33) = 1.24, p > .22$ . These data suggest that while the confederate in the *skin* condition was seen as relatively more of a body, he was not liked any more or less.

The number of shocks ostensibly administered was tallied up for each person and submitted to the same independent-samples *t*-test, with condition (*shirt/skin*) as the independent variable. As predicted, participants in the

*skin* condition shocked the confederate less ( $M = 8.0, SD = 5.11$ ) than those in the *shirt* condition ( $M = 13.7, SD = 8.68$ ),  $t(33) = 2.36, p < .05$ . These data suggest that people who are seen as more of a body are harmed less than people who are seen as more of a mind. This contradicts one idea of objectification, whereby a body focus leads solely to harm.

#### General Discussion

Through six studies, we found that focusing on the body does not lead to wholesale de-mentalization, but instead to redistribution of mind, whereby perceptions of agency are decreased and perceptions of experience are increased. Redistribution of mind was found using different manipulations: pictures displaying different amounts of skin (Experiments 1, 3, 4 and 6) and focusing attention on physical versus mental characteristics (Experiments 2 and 5). Using sexually suggestive stimuli did not eliminate redistribution of mind, but instead increased it (Experiment 4). The increased perceptions of experience stemming from a body focus led 'objectified' others to be seen as relatively reduced moral agents (less morally responsible) (Experiment 5) but relatively greater moral patients (more sensitive to harm) (Experiments 5 and 6).

These results suggest that the nature of objectification may need to be reconsidered in light of the two-dimensional structure of mind perception. Conceiving someone as a body does not take mind away, but instead confers a different kind of mind, turning people into Experiencers (moral patients) instead of

Agents (moral agents). At first blush, these studies appear to contradict previous findings on objectification, which have suggested a body-focus involves dematerialization; however, past research focused mostly upon agency-related capacities such as competence and intelligence. There are notable exceptions however, which find that a bodily focus reduced ascriptions of experience-related capacities as well (Cikara et al., 2010; Heflick & Goldenberg, 2009; Heflick, Goldenberg, Cooper, & Puvia, 2011; Loughnan, Haslam, Murnane, et al., 2010). We attempted to uncover this discrepancy in the present research by taking multiple approaches including manipulating mindsets and sexualization, and measuring behavior, but all these studies supported the redistribution of mind hypothesis. One likely potential explanation for these divergent effects is hostility; Cikara and colleagues (2010) find that only those men who endorse hostile sexism (rather than benevolent sexism) show reduced activity in neural regions involved in mind perception. Furthermore, there appears to be a limit on the redistribution of mind – people *fully* conceived as only a body, such as those in persistent vegetative states, are seen to have less agency and experience than even the dead (Gray et al., in press).

One other notable difference between these findings and previous research (e.g., Heflick et al., 2011) is that we found a redistribution of mind regardless of the gender of targets and perceivers. Objectification is often discussed in terms of men objectifying

women (e.g., Gervais et al., 2011; Nussbaum, 1995), but we found that both men and women strip agency and confer experience to both men and women when a bodily-focus is induced. Of course, in real life, such a bodily-focus is more likely to be spontaneously applied to women (Archer et al., 1983; Moradi & Huang, 2008), and hence women are ultimately more likely to be the target of the redistribution of mind.

#### *Dualism, typecasting and objectification*

Our proposed explanation for the redistribution of mind is a formulation of dualism (Bloom, 2004; Demertzi et al., 2009), which is the tendency to distinguish certain aspects of the mind from the more purely bodily self. Some theorizing has suggested that people rely on a simple dichotomy between mental things (beliefs, intentions, emotions) and physical things (rocks, chairs, bodies), which would link a body-focus with ‘objectification.’ To objectify a person would be to treat that person purely as a physical object, regarding the person almost as one might think of a rock or a chair, not as a genuine mind. The present studies suggest, however, that this simple framework might not be capturing the complexities of people’s understanding. Instead, it seems that people are adopting what might be called a ‘Platonic dualism’ (following Plato, BC380). On such a view, the two categories of mind and body are divided up somewhat differently. The “mind” category contains one particular part of the mind, the capacity for thinking and reasoning; the body category includes both the body and a second part of the

mind, the capacity for more visceral emotions and passions. Hence, if one focuses on a person's body, one becomes simultaneously less inclined to attribute to that person a capacity for abstract thought and more inclined to attribute seething desires and feelings.

The redistribution of mind observed in these studies could be thought of as general version of 'moral typecasting' (Gray & Wegner, 2009, 2011a), the tendency to divide the moral world into the two mutually exclusive roles of moral agents (someone who does good or evil) and moral patients (someone to whom good or evil is done). Research on typecasting finds that moral agents are seen as more capable of agency but less capable of experience, while moral patients are seen as more capable of experience but less capable of agency. The results reported are consistent with these findings, and further demonstrate that these effects can be inducted by a non-moral manipulation – simply focusing on someone's body.

To the extent that this modified framework concerning perceptions of the mind and body turns out to be correct, it is inaccurate to describe the body focus as inducing 'objectification.' People who seem especially embodied are not treated as mere physical objects, but instead like non-human animals, as beings who are less capable of thinking or reasoning but who may be even more capable of desires, sensations, emotions and passions. This is consistent with the ideas of Haslam and colleagues, who suggests that we can dehumanize people either by likening

them to robots, involving a loss of experience, or likening them to animals, involving a loss of agency (Haslam, 2006; Haslam et al., 2008; Loughnan & Haslam, 2007). This is also in line with the work of Kervyn and colleagues (Kervyn et al., 2009; Kervyn, Yzerbyt, Demoulin, & Judd, 2008), who find that when we strip agency related traits from individuals, groups or countries, we compensate them by inferring an increased capacity for experience-related traits.

#### Implications and Extensions

Discovering that focusing on someone's body induces a redistribution of mind has a number of practical implications. In work or academic contexts, where people are primarily evaluated on their capacity to plan and act, a body focus clearly has negative effects. Seeing someone as a body strips him or her of agency and competence, potentially impacting job evaluations. Even more than robbing someone of agency, the increased experience that may accompany body perceptions may lead those who are characterized in terms of their bodies to be seen as more reactive and emotional – traits that may also serve to work against career advancement.

Even the positive aspects of a body focus, such as increased concern about bodily harm, may be ultimately harmful. For while people may act to protect those who are characterized as bodies from harm, doing so strips them of their self-determination. The pernicious effects of such positive aspects of a body focus are consistent with the idea of benevolent sexism (Glick & Fiske, 1996), whereby

women are more likely to be sought out for emotional intimacy and to be judged more worthy of protection, but ultimately oppressed (Eagly, Mladinic, & Otto, 1991; Major, Schmidlin, & Williams, 1990). It could be that the effects of benevolent sexism are mediated by perception of women as bodies.

There may be cases, however, where it is genuinely beneficial to perceive someone as a body. Consider making love to someone. To the extent that the perceived pleasure of a lover is pleasurable to oneself, conceiving as one's lover as a body could increase the enjoyment of this physical act. Likewise, in medical procedures where the management of pain is important, focusing on the bodies of patients may help doctors cause less pain. Of course, conceiving as lovers and patients as bodies *all the time* may be harmful, but it could be that selectively using a body focus can be beneficial.

The link between a body focus and mind perception raises the question of whether such a link can function in reverse: can focusing on another's experience or pain lead one to see someone more as a body? If so, it means that simply expressing more emotion could lead to being seen as more of a body. It also suggests a possible feedback cycle, whereby perceptions of experience lead to a body focus, which leads to more perceptions of experience, which leads to a greater body focus and so on.

Whatever the positive or negative effects of focusing on someone's body, its effect on mind perception seems clear. Those perceived in terms of their physical characteristics are not completely stripped of mind, but are instead seen to possess a different kind of mind – one lacking in self-control and moral responsibility, but relatively more capable of pain, pleasure and emotion.

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Figures

Figure 1. Pictures used in Experiment 1.



Erin Face



Aaron Face



Erin Body



Aaron Body

Figure 2. Perceptions of agency and experience for targets depicted by either their faces (Face) or faces and upper bodies (Body) (Experiment 1). Error bars are  $\pm 1$  S.E.

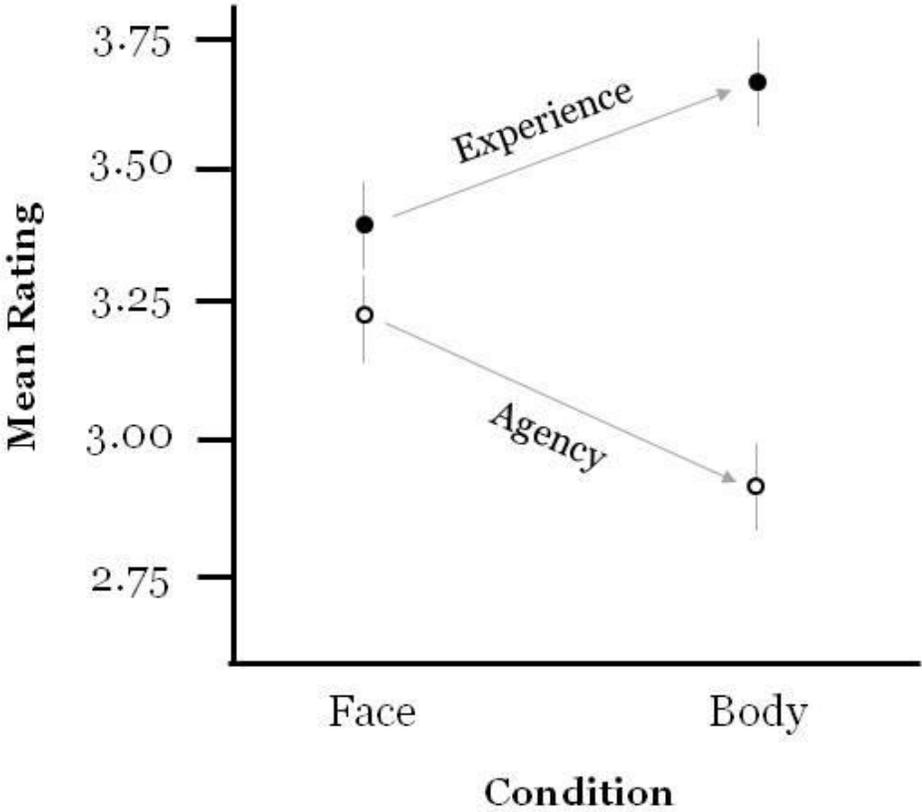


Figure 3. Relative perceptions of agency and experience of women within a pair depending on initial mindset (Experiment 2). Error bars are  $\pm 1$  S.E.

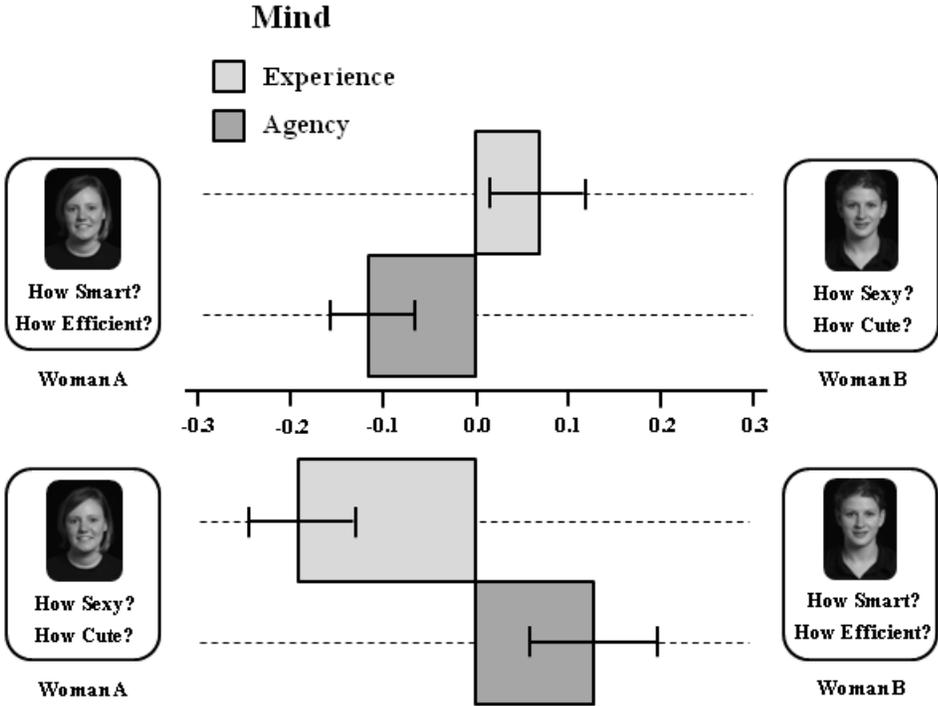


Figure 4. Pictures and data from Experiment 3. Ratings of agency and experience for clothed and naked portraits. Error bars are  $\pm 1$  S.E.

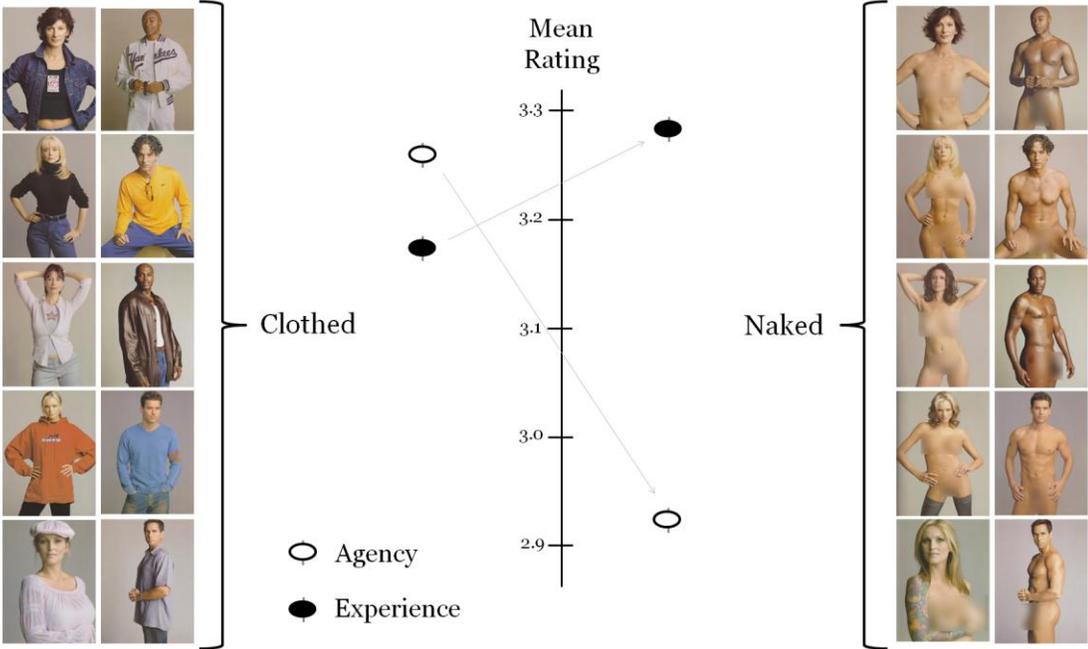


Figure 5. Pictures used in Experiment 4. Yellow top is see-through.



Clothed



Naked



Sexual

Figure 6. Ratings of Agency and Experience by condition (Experiment 4). Error bars are  $\pm 1$  S.E.

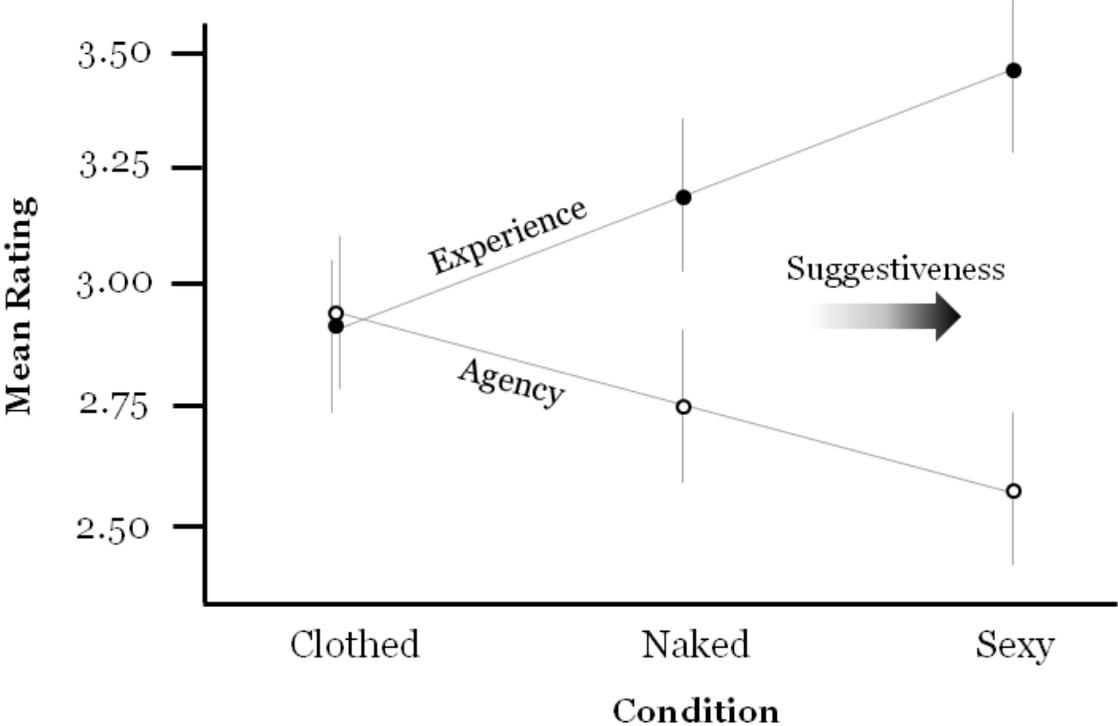


Figure 7. Polaroid photos of confederates used in Experiment 6.

