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Some of the most important decisions that human beings make are embedded with heavy moral connotations, with moral defined as the concern with right and wrong. Questions of whether the United States was justified in invading Iraq, whether one child should share his toys with another, and whether it is wrong to eat a deceased pet dog are all questions with moral implications. When an individual engages in actions that are considered right, he or she is regarded as good; when an individual engages in actions that are considered wrong, he or she is considered bad. Since individuals tend to avoid others whom they perceive as bad and seek out those they perceive as good, questions of right and wrong are intrinsically important to social interactions. However, it is important to understand exactly how people arrive at the conclusions they do when making moral decisions. Some researchers in the psychological field believe that moral judgments are considered to be the result of several cognitive processes (Keltner, Horberg, & Oveis, 2006). However, another possible hypothesis about how individuals make moral judgments is that this is often done via moral intuitions. These moral intuitions are defined as “the sudden appearance in consciousness of a moral judgment, including an affective valence (good-bad, like-dislike), without any conscious awareness of having gone through steps of searching, weighing evidence, or inferring a conclusion” (Haidt, 2001). These moral intuitions then can affect one’s moral judgments, or evaluations (whether good or bad) of the actions or character of a person that are made with respect to a set of virtues held to be obligatory by a culture or a subculture (Haidt, 2001). Reaching moral judgments through these steps is known as the social intuitionist approach because reasons do not play a primary role in the final decision

of whether a behavior is right or wrong. Instead, the judgment of rightness or wrongness intuitively appears in consciousness.

Jonathan Haidt (2001) provides a hypothetical situation that illustrates this social intuitionist approach to moral judgment: Julie and Mark are two consenting individuals who make love. Julie was already taking birth control, and Mark used a condom as an extra precaution. Both individuals enjoyed the experience and felt closer to one another because of it. Neither individual was hurt emotionally, and no pregnancy resulted from the intercourse. However, Julie and Mark are brother and sister. Based upon this information, readers typically form an immediate judgment that their actions were utterly wrong. Since Julie was at a relatively low risk of getting pregnant, and neither Julie nor Mark displayed any emotional damage, the typical bases of rational judgment (fairness and harm) were not violated. When individuals are asked to provide reasons for their judgment of the actions as wrong, they are typically unable to provide satisfactory reasons. Often, individuals respond that they cannot explain why the behavior of Mark and Julie is wrong beyond the reasons they previously provided, but they simply disapprove of the actions. When the reader discovers that Julie and Mark are brother and sister, they typically experience the emotion of disgust, followed by an immediate judgment that the actions of Julie and Mark are wrong. The reader does not pause to gather evidence and use conscious reasoning in order to decide whether these actions are wrong. Upon discovery of the actions as incest, the reader is disgusted and inherently "knows" the action is wrong. How has the reader reached this decision? He or she has not done it by an appeal to authority and has not made this conclusion by gathering empirical data or by means of rational discourse. The reader has obtained this knowledge by means of an intuition. The negative affective (bad/dislike) state embedded in the reader's moral judgment was the negative emotion

of disgust. It is thought that emotions such as disgust frequently function as moral intuitions (Keltner, Horberg, & Oveis, 2006).

Moral psychology has long been considered to be about how people should treat each other. Ethical philosopher Lawrence Kohlberg believed that all of morality was based on the psychology of justice, whereas Carol Gilligan argued that there was a second moral foundation concerning the care of others that was not derived from concerns about justice. These are now two widely accepted psychological foundations of morality: fairness/justice and harm/care. However, more recent research suggests that moral judgments might be influenced by more than reason: emotions may be involved as well. Haidt (2008) suggests that the moral foundation of harm/care is based on the fact that most human beings are emotionally responsive to the suffering and harm of others, are encouraged to protect each other from harm, and take care of the most vulnerable members of a group or society. This accounts for why people view the violent harming of others as wrong in addition to why adult male members of society often emphasize the protection of women and children. In contrast to the foundation of harm/care, which involves physical well-being, the second principle of fairness involves justice and mental well-being. People have been emotionally responsive to matters of fairness and reciprocity, and this preoccupation has been formalized in the conceptions of individual rights and justice (Haidt, 2008). Haidt (2008) suggests that although morality deals with concerns of how people treat one another, these concerns cannot suffice for all of morality. In addition to matters pertaining to the treatment of individuals, morality also serves to bind people together to form groups by supporting institutions and encouraging dignified and consecrated lifestyles. However, moral issues reach beyond the treatment of individuals and prompt other questions of rightness and wrongness as well. The traditional definition of moral decisions involving judgments of

rightness and wrongness stands in contrast to the theory that all morality can be explained by fairness/justice and harm/care. Haidt's (2001) hypothetical example of familial incest serves as a prime example of judgments of right and wrong that lie outside the confines of the two accepted psychological foundations. Haidt provides a somewhat new definition for morality in an attempt to appeal more directly to the evolutionary history of human morality. He defines morality as "any system of interlocking values, practices, institutions, and psychological mechanisms that work together to suppress or regulate selfishness and make social life possible" (Haidt, 2007). It seems appropriate then, that there would be moral foundations in addition to the harm/care and fairness/reciprocity which are presumably about how human beings treat other individuals.

Haidt (2007) has suggested just that in his proposal that there are at least three other psychological foundations of morality: ingroup/loyalty, authority/respect, and purity/sanctity. These additional psychological foundations can all be ascribed to moral decision-making as well. All five of the moral foundations, including the three that Haidt introduces, are methods of binding individuals together and simultaneously help create virtues, vices, and cultural practices that also bind members of society together into social groups. In a study performed by Oveis, Horberg, and Keltner (2006), the researchers explored the effect of priming on group binding by feelings of similarity. One experimental group was primed to experience the emotion of compassion by viewing photographs depicting harm. A second experimental group was primed to experience pride through photographs portraying images containing sources of pride. Following these viewings, each participant was asked to rate how similar he or she felt to various social groups, both similar to and different from him or herself. The researchers found that those individuals primed to experience compassion experienced higher feelings of similarity between themselves and all of the groups overall. The moral foundation of ingroup/loyalty seems to be

part of a constellation of mechanisms evolved to facilitate trust and subsequently strengthen social bonds. The importance authority/respect has in many human beings' moral decision making appears to have evolved out of the advantages of being able to manage one's social role and rank within a complex hierarchical structure. This contributes to the ability to develop a division of labor within a society, which has obvious benefits on productivity and efficiency. It is clear that the additional moral foundations suggested by Haidt can further explain the understanding of morality in society, especially when considering how individuals reach moral judgments.

Interestingly, of all five of the moral foundations offered as methods to understanding morality, the foundation of purity/sanctity is believed to be the most recent to evolve (Haidt, 2008). According to Haidt, its origin lies with the development of the emotion of disgust as a food-related emotion in which the individual is revolted by the idea of oral ingestion of harmful objects. These objects have the potential to contaminate other objects. When these disgust-inducing objects have mere contact with otherwise un-harmful objects, the latter begin to be viewed as inedible (Rozin & Fallon, 1987). This spreading contamination property has become more generalized and may have led to the development of beliefs that people can take on the properties of the foods they eat, including contamination properties (Rozin & Fallon, 1987). As a result, contamination issues were no longer isolated to foods and became present in issues of hygiene. Furthermore, these developments may have led to the experience of disgust in relation to certain actions of other human beings. For example, if an individual witnesses another person eating raw meat, he or she will view that person as disgusting and contaminated because the meat product is potentially harmful, as it may contain diseases. It is quite possible that the individual's disgust response has evolved from his or her food-related origins. Through previous

experience and the advantageous tendency to use higher order cognitive processing, the individual is able to suppress the seeking of immediate gratification through bodily pleasure and refuse raw meat. This person understands that it is more conducive to his or her health to wait for better food that is less likely to contaminate the body than to achieve immediate gratification by eating the currently offered foods. Therefore, disgust can help deter individuals from giving in to bodily desire and making decisions with possible negative outcomes. In turn, using the higher cognitive processes enables individuals to overcome their animalistic tendencies of immediate gratification.

When trying to identify the essential nature of a human being or the necessary properties of human-ness, Nick Haslam defined human beings by what he refers to as uniquely human characteristics. These characteristics include, but are not limited to, language, higher order cognition, refined emotion, openness to experience, and conscientiousness. These emotions are believed to be emotionally informative, cognitively saturated, internally caused rather than responsive to the environment, private, and emerging late in development. These characteristics are essentially cognitive sophistication, culture, refinement, socialization, and internalized moral sensibility. According to this generally accepted definition, one of the distinguishing properties of being a human is conscientiousness, which consists of industriousness, inhibition, and self-control. Disgust is experienced in some sense upon witnessing acts that exemplify a lack of control. Elevation is experienced in part when one engages in altruistic acts, which are the most pro-social acts one could partake in. If a being is altruistic, it must be considered a social being. If human beings wish to distinguish themselves from other animals, they must engage in actions which exemplify these uniquely human characteristics.

In contrast to succumbing to one's desires, many religions contain themes of overcoming one's animalistic tendencies and desires in order to become a more sanctified and pure human being. The Bible describes Jesus as being born of the Virgin Mary. The significance of her virginity lies with her status as a pure and undefiled woman who has not engaged in animalistic acts such as sex. Many Christians are recommended to go through a ritual known as Baptism, which involves the individual being submerged in water as a symbolization of the "cleansing" of their spirit from the defilement of original sin. Original sin refers back to the story of Adam and Eve, in which both individuals failed to control their desires and thus succumbed to immediate gratification against God's will. Haidt proposes that the purity/sanctity foundation has evolved to a significant degree and has become partially responsible for an individual's desire to overcome his or her lowly animalistic nature by elevating him or herself to a state more closely associated with divinity and less associated with carnality (Haidt, 2000). The concept of purity or cleanliness, including its associations with divinity, can also play a significant role in one's moral judgments, leading to its inclusion in the present study.

Beyond Haidt's theory that the moral foundation of purity/sanctity enables humans to overcome animalistic desires, this moral foundation also partially enables individuals to navigate him or herself through what Haidt (2000) considers one of the three dimensions of social space. These dimensions are placed on a graph making the analogy between physical and social space. The first dimension of social space is labeled solidarity, and it is defined by interpersonal distance or closeness and is represented by the x-axis, or horizontal axis. The second dimension of social space is hierarchy, or social status, and is represented by the y-axis or the vertical axis. Haidt notes that most Western cultures live in a world where these two dimensions affect all social interactions. However, the third social dimension suggested by Haidt is that of elevation, also

associated with divinity because of its relevance to the functionality of the purity/sanctity foundation discussed earlier. Elevation is defined as a positive moral emotion which motivates individuals to behave more virtuously. High elevation is characterized by spiritual purity, while low elevation is characterized by degradation and pollution. According to Haidt, modern Westerners have tried to suppress elevation in social interactions, but it unconsciously appears in moral judgments.

The emotion of disgust, an important concept to the current study, is closely related to Haidt's social dimension of elevation. Rozin, Haidt, and McCauley (2000) propose that the emotion of disgust is triggered by the judgment of moving "down" on the moral dimension of elevation. Previous research on moral intuitions has focused on disgust as a source of influence on people's judgments of whether a behavior is right or wrong (Schnall, Haidt, Clore, & Jordan, 2008). In this study, researchers ran four experiments in which they primed participants to experience disgust by exposing them to a foul smell, placing them in a disgusting room during the experiment, asking them to recall a disgusting experience, or having them watch a disgusting video clip. The results indicated that the severity of moral judgments can be increased through the use of priming. Furthering the exploration of emotions and moral judgments, recent research has looked at whether there is an antithesis to disgust. By priming purity, cleanliness, and an absence of contamination, research has shown that participants' judgments of moral wrongness can be reduced. In an experiment by Schnall, Benton, & Harvey (2008), participants viewed a disgusting video clip. Following the film clip, one half of the participants were then asked to wash their hands. Finally, all participants rated six moral dilemmas in order to determine the effect of handwashing on moral judgments. The results showed that those participants who washed their hands made less severe moral judgments overall. It is clear that emotions, from

purity and cleanliness to disgust, have strong and important effects on moral judgments that require further exploration.

The present study has a strong cornerstone on the moral foundation of purity/sanctity. The selection of the moral foundation of purity/sanctity and its counterpart disgust is due to the wide range of application the results can be used for. As opposed to the other moral foundations such as authority/loyalty and fairness/justice, research on disgust has been useful in multiple areas of psychology. For example, by priming individuals who smoke with disgust, psychologists have been able to assist smokers in quitting their habit. This study is meant to determine if priming individuals with disgust or elevation affects his or her individual interpretations of whether a behavior is right or wrong.

The present study is significant in that it will allow for greater understanding of the process behind an individual's moral decision-making and to what extent moral intuitions and moral judgments can be influenced. This study extends previous research by adding elevation as a prime. We will attempt to directly prime elevation and observe its effect on moral judgments, and then compare its effects with the effects of purity and disgust primes. Our hypothesis provides one method of possible influence, through the use of priming photographs. It is hypothesized that participants who are primed with disgust-content photographs will be more judgmental (will judge a transgression as more wrong) on various moral judgments than participants primed with neutral, purity, or elevation content photographs. Participants who are primed with elevation and purity content photographs will be less judgmental (will judge a transgression as less wrong) on various moral judgments than participants primed with neutral or disgusting photographs.

Method

Participants

The participants of this study included 116 individuals, including multiple ethnicities and ranging from the age of 18 to 61 years. There were 40 males and 76 females. Participants enrolled in a psychology course at Hanover College were able to receive extra credit for those classes if given the option by their instructor. Individuals visiting the Hanover College psychology department's website where this and other research opportunities are available were also able to volunteer their time to participate in our study.

Materials

Each participant viewed a series of still photographs chosen to elicit the emotion of disgust, elevation, or purity, or neutral photographs chosen to elicit no emotions at all. Each photograph used in the disgust condition presented a different image chosen to elicit disgust, while each photograph in the elevation condition presented a different image chosen to elicit elevation. Similarly, the photographs in the purity condition were selected to elicit thoughts of cleanliness. Those assigned to the control condition were exposed to neutral photographs that would not activate any moral intuitions. All of the photographs were selected by the researchers. Images portrayed in the disgust condition included animal waste and a child with a worm in his nose. The control condition viewed still images of neutral objects, such as a park bench and a toothbrush. In the elevation condition, participants viewed a series of still photographs specifically chosen to elicit the emotion of elevation. Images portrayed in the elevation condition included Martin Luther King, Jr. giving a speech and a firefighter saving a young child. Images for the purity condition included a white rose and a close up of an individual washing his or her hands. Following the photographs, each participant then received a survey

with fourteen moral scenarios, which participants were asked to rate on a Likert scale from 1 to 6, with one being not wrong at all and 6 being very wrong. All moral scenarios were taken from the previous research of Schnall, Haidt, Clore, & Jordan, (2008) and Haidt, Koller, & Dias (1993).

Design and Procedure

From the Hanover College psychology website, participants were directed to the current study and were provided with an online informed consent form. Each participant then agreed to take part in the study and was randomly assigned either to the disgust, elevation, purity, or control condition. For the three experimental conditions, each participant viewed 5 still photographs chosen to elicit the emotion of the assigned condition (disgust, elevation, or purity). After viewing these photographs, each participant filled out a moral scenarios survey, with each moral vignette chosen to capture the participant's moral judgments relevant to issues related to the social dimension of divinity. After reading each scenario, the participant was asked to determine how morally wrong each scenario was using a Likert scale. Upon submitting their responses, participants were directed to an online debriefing form and thanked for their participation in this study.

Results

Manipulation Check

A manipulation check was ran to determine the effectiveness of the photographs that were used to prime the specific emotions. Participants were asked to indicate to what extent they felt the picture captured the emotion (disgust, purity, or elevation) of their assigned condition.

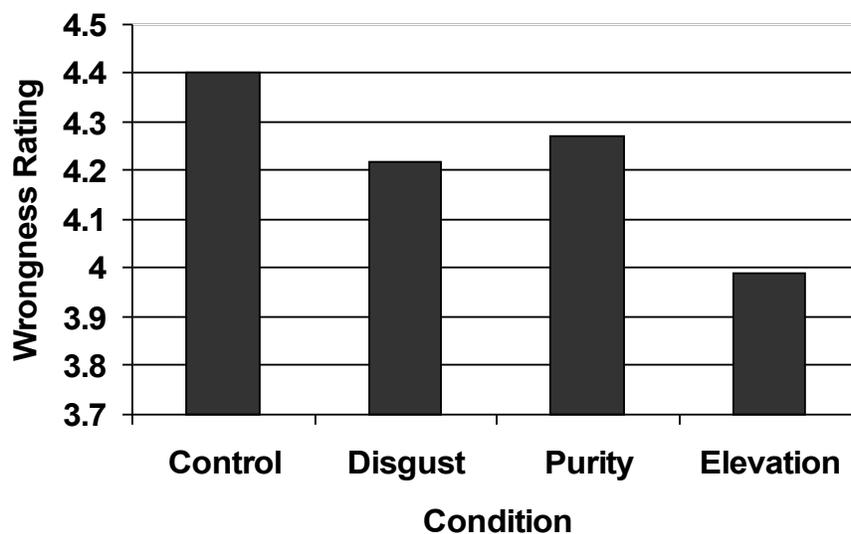
Responses were rated on a Likert scale from one to six, with one indicating that the relevant emotion was weakly elicited or not elicited at all and six indicating that the relevant emotion was elicited in the strongest sense, or to a significant degree. Participants in the control condition provided a 3.2 average photograph rating, indicating that they had very little preference for the pictures, neither liking nor disliking the photographs. Participants in the disgust condition scored a 4.2 average photograph rating, indicating that they were moderately disgusted. Participants in the elevation condition provided a 3.98 average photograph rating, indicating that they were moderately elevated. Finally, participants in the purity condition scored a 3.92 average photograph rating, indicating that they experience the emotion of purity at a moderate level.

Moral Dilemmas

A reliability analysis was first conducted on the moral dilemmas questionnaire, removing two items from it to improve its reliability $\alpha = .85$. A one-way ANOVA was conducted to test for differences among the four conditions. Responses on the twelve moral dilemmas did not differ significantly across the priming conditions, $F(3, 112) = .911, p = .438$. The mean for the rating of wrongness was 4.4 for those in the control condition, 4.22 for those in the disgust condition, 4.27 for those in the purity condition, and 3.99 for those in the elevation condition. Although the difference between the average wrongness rating for those participants in the control condition were not significantly different from the average wrongness rating for those participants in the other conditions, the relationships between purity and moral judgments and elevation and moral judgments trended in the expected direction. Specifically, participants exposed to purity content and elevation content were less judgmental on average than those exposed to neutral content. However, the relationship between disgust and moral judgments

trended in a direction opposite of what was expected by the researchers. Specifically, participants exposed to disgusting content were less judgmental on average than those exposed to neutral content in spite of the hypothesis that exposure to disgust would, on average, make participants more judgmental.

Figure 1. Average Ratings of Wrongness for Elicited Emotions



Discussion

This study was designed to determine the relationship between the effects of disgust, purity, and elevation on moral judgments. The researchers hypothesized that participants primed to experience the emotion of disgust would be more judgmental than a neutral participant and that participants primed to feel purity and elevation would be less judgmental than a participant primed with neutral or disgust-content photographs. The predicted hypotheses were partially supported. The difference in the severity of moral judgments for those primed with purity and elevation did show a trend in the expected direction. However, this difference was not

significant. It was particularly interesting that participants primed with elevation were on average, less judgmental than those participants primed with purity. This suggests the possibility that elevation is a more powerful method of moving an individual along the third dimension of space than purity. The difference in severity of judgments for those primed with disgust was in the opposite direction of what was expected. This could be due to the fact that many participants reported feeling sympathy or humor in addition to disgust when reacting to the photographs viewed in the disgust condition. Another limitation was the intensity with which the participants experienced the emotions the researchers were intending to elicit. The average scores for participants in the three priming conditions were all close to 4 on a 1 to 6 scale, with 1 being the lowest amount of emotion associated with a photograph and 6 being the highest. This indicates that the participants experienced the relevant emotion at a moderate intensity. Ideally, the participants would have reported an average score closer to 6, which would indicate that our manipulation activated the emotions at a very high intensity level. In future studies, researchers would need to run more pilot tests to make sure to isolate the particular emotion that they are intending to elicit. This will also insure that the specific emotion is being elicited at a high enough intensity to accurately determine the effects it has on moral judgments. Other future studies should explore emotions other than purity, elevation, and disgust to see which emotions influence moral judgments the most. Furthermore, researchers should use priming materials other than still photographs to determine other methods that may potentially impact on moral judgments. These future research methods will contribute further to the overall understanding of moral judgments and the ability to affect one's interpretation of right and wrong.

Judgments of right and wrong are involved in many of the most important decisions individuals make. In several situations, these judgments are the decisions that ultimately decide

whether others would like to affiliate with us or not. Understanding the impact of situational factors on these judgments is of high importance and can be used to help improve cross cultural communication and resolution of problems and conflict.

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