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Moral Emotion Regulation: The Case of Abortion Attitudes

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Abstract

With regard to moral judgments. Lawrence Kohlberg claimed that reason and logic lead to answers about right and wrong. By contrast, Jonathan Haidt proposed an "emotivist" theory of morality in which feelings take center stage. I tested Haidt's theory of moral judgment by showing 59 college undergraduate participants an abortion video while instructing them to increase, decrease, or make no attempt to change their level of emotion during the video. I found that the video succeeded at both increasing negative emotions (particularly disgust) and changing abortion attitudes to a more pro-life stance. Furthermore, the moral views of participants asked to down-regulate emotions by viewing the video analytically were less affected by the video. Implications and methodological problems are discussed.

Title Page

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Moral Emotion Regulation: The Case of Abortion Attitudes

A Philosophical Divide

A tradition extending back to ancient Greece identified morality with rationality, implying that moral judgments were based on logic. Western religion capitalized on this way of thinking; for example, Thomas Aquinas used Aristotelian logic in an attempt to justify religious morality.

David Hume, a Scottish thinker and a product of the enlightenment, questioned the significance of rationality in morality. According to Hume, it is impossible "from reason alone … to distinguish betwixt moral good and evil" (Hume, 1740/2000, p. 457). As an empiricist, Hume thought that reason, at best, could inform us of the means to achieve an end, but that reason had no place deciding the end in question. For Hume, emotion fills this normative void; through emotion, we can structure our preferences for achieving goals (Morris, 2001).

Hume's observations led him to believe that sympathy for humanity guides most people's actions, for reason (i.e., rationality) does not allow us to make the logical leap from statements about what people do to statements about what people *should* do. Reason can only provide statements of the former type. We need goals to obtain statements of the latter type, and Hume thought that these goals were motivated by emotion (Cohon, 2004).

Immanuel Kant (1787) argued against Hume's moral philosophy. According to Kant, Hume's theory only described "hypothetical imperatives"—duties contingent upon certain goals. However, according to

Kant, Hume ignored "categorical imperatives"—duties that are present regardless of one's goals. Kant suggested that we need to use reason to arrive at categorical imperatives because they are not goal oriented—they are not dependent upon someone's whims or desires, and are instead universal. Furthermore, he described a multi-step process to reason the morality of an action: propose an action, picture that action as a rule guiding all rational beings, and then decide whether you would will everyone to do what you are about to do (Johnson, 2004). For instance, Kant believed that people should never lie because he pictured a world in which everybody lied and determined that this world was the worst possible world that could exist – nobody would ever want a world in which *everybody* lied. Therefore, according to him, we should never lie. Kant understood that people felt emotion at moral actions, but unlike Hume, he determined that emotion was a consequence of the action and not a cause.

Kantian and Humean insights on emotion and reason in morality have influenced 20th century psychological thinkers, among them Lawrence Kohlberg. Kohlberg tried to map the development of moral reasoning in boys by interviewing them about what a character should do given certain hypothetical dilemmas. For instance, in one dilemma, Heinz's wife is near death, the only cure available is a drug sold by a specific druggist, Heinz does not have enough money to buy the drug, and the druggist is unwilling to lower the price of the drug to accommodate Heinz. The only way that Heinz could save his wife is to steal the drug. Kohlberg told the boys that

Heinz stole the drug, asked the boys if Heinz should or should not have stolen the drug (and why), and then asked the boys if he should or should not be punished for stealing the drug (and why) (Rest, 1986 as cited in Anderson, 2004). Kohlberg cared not about what decisions the boys made but the moral reasoning used to reach those decisions. For instance, one boy could have said that Heinz should have stolen the drug because it is nice to help people, while another boy could have said that Heinz should not have stolen the drug because it is not nice to steal. Kohlberg thought that the reasoning behind the decision (e.g. "it is nice to do this" or "it is not nice to do that") indicated the moral stage, not the decision itself.

Through interviews with the boys, Kohlberg created a stage theory of moral decisions in which the "moral stage" corresponds to the highest level of moral thinking that the boy engages in his reasoning. According to Kohlberg, as a child develops more mature moral reasoning processes by engaging with his environment, he develops the skills to make universal moral decisions based on logic rather than fear of punishment. Moreover, Kohlberg set his stage theory so that his highest level of moral reasoning corresponds to the ideal Kantian processes of making moral decisions, such as universal rules, logical reasoning, and perspective taking (Krebs & Denton, 2005).

Rationalism Challenged: Hume's Return

The study of cognitive processes has dominated psychology since the 1960s, so it is no surprise that Kohlberg's cognitive/rationalist theories

dominated moral psychology between 1960 and 1980. However, in the late 1970s and 1980s, experiments revealed a significant amount of non-conscious processes in cognition. For example, Nisbett and Wilson (1977) reviewed a study in which people who memorized the word pair 'ocean-moon' were more likely to suggest Tide when asked for a detergent; however, when the participants were asked why they responded with Tide, they did not mention the words that they had to memorize - they made up other plausible reasons (for instance, "I like the Tide box" (p. 243)). When asked if the memory task might have elicited the response, only one-third of the participants thought it possible. This review called into question the legitimacy of introspection as a way to understand cognitive processes. Furthermore, automatic processes have been implicated in linguistics: people can easily decide whether or not a sentence is grammatical without being able to say why (Anderson, 2004).

A more relevant challenge to rationalist moral psychology came in Haidt's (2001) paper, entitled "The Emotional Dog and Its Rational Tail: A Social Intuitionist Approach to Moral Judgment." The main goal of this paper was to outline and defend a model of moral judgments based on intuition rather than reasoning[1]. The basis of Haidt's model is emotion; he proposed that emotion determines moral judgments by activating moral

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[1] Haidt (2001) defined intuition as something that occurs "quickly, effortlessly, and automatically, such that the outcome but not the process is accessible to consciousness" (p. 6) contrasted with reason, which occurs "more slowly, requires some effort, and requires at least some steps that are accessible to consciousness" (p. 6).

intuitions. (Haidt recognized that occasionally, personal characteristics and knowledge would sometimes cause people to think rationally about a moral judgment. People will sometimes mull over a decision that they have made, especially if they do not feel a strong emotion either way; therefore, he allowed a place for reason in his chain of moral reasoning, but it occurs at the end of the chain and only under very specific circumstances.)

Outlined briefly below is Haidt's Social Intuitive Model (SIM) along with evidence supporting each of the first four links in the chain. The fifth and sixth links are concessions to rationalist models, and they are only briefly described here (for a more complete description, see Haidt, 2001; also, see Figure 1 for a diagram).

1. *The Intuitive Judgment Link:* When confronted with a moral dilemma, a controversial issue, or a transgression, it is assumed that everyone has an immediate emotional reaction and a rightness or wrongness intuition. These intuitions occur well before any conscious reasoning can take place.

Supporting this step, Haidt cited studies in which participants evaluated stimuli as positive or negative as soon as those stimuli were presented, well before any conscious deliberation could have taken place (Zajonc, 1980, as cited in Haidt, 2001). Furthermore, several studies have demonstrated that emotions correlate with moral decisions (e.g. Moll et al., 2002; Greene, 2001), with one study showing that inducing a negative mood in a participant will lead him or her to make harsher judgments than

inducing a positive mood in the participant (Forgas & Moylan, 1987). This suggests that emotion may precede and contribute to moral decisions.

2. *The Post Hoc Reasoning Link:* After a person automatically makes a decision regarding his or her moral position on an issue, he or she searches for reasons supporting the decision that he or she has just made. This step is effortful as contrasted with the easy and automatic decision-making step. Anderson (2004) suggested that even though the reasoning occurs after the judgment, the person making the judgment might still think that the reasoning occurred first.

Supporting this step, Haidt cited several research studies (e.g. Kuhn, 1991; Kunda, 1990) concluding that "everyday reasoning is heavily marred by the biased search only for reasons that support one's already-stated hypothesis" (p. 818); however, as far back as Festinger (1957), studies have shown that a need for consistency can cause people to change their cognitions in response to their own behavior.

3. *The Reasoned Persuasion Link:* After people decide the reasoning for their viewpoints, they will try to use his or her newly created reasons to persuade others of their opinions. Haidt theorized that even though people might try to use logic to persuade other people to accept their moral positions, the most successful avenue of persuasion is through affect.

Supporting this step, Haidt cited research demonstrating that attitudes are most responsive to change through affective means (e.g., Edwards & von Hippel, 1995; Shavitt, 1990, both as cited in Haidt, 2001).

If the intuitive judgment link and post hoc reasoned link occur in the suggested order (i.e. people have initial, affective reactions and then decide their reasons post hoc), then moral attitudes are affectively based, so methods of changing affect would best serve to change moral attitudes.

4. *The Social Persuasion Link:* As the model indicates, some of the links in this moral judgment sequence may be bypassed as a result of social persuasion. Someone might decide how he or she feels about an issue not by the arguments being presented but by the position of the persuader relative to the person being persuaded. For example, think of President Bush's reaction to Al Gore's movie "An Inconvenient Truth," or the Republican (or Democrat) response to Michael Moore's "Fahrenheit 9-11." These movies were universally supported by their respective political party, and unsupported by the opposing party, not because of the arguments presented but because of the people making the arguments.

The power of social persuasion was elegantly demonstrated by the research of Soloman Asch (1956). Asch showed how individuals are influenced to conform when confronted with a consensus attitude in a group. The individuals can be as close as loved ones (Davis & Rusbult, 2001), but they can also be as distant as classroom peers (Newcomb, 1943). Moreover, the more respected the individuals who hold these beliefs, the greater the degree of persuasion and conformity they foster among observers.

5. *The Reasoned Judgment Link:* Rarely, a person can actually reason his or her way to a judgment through logic. This process serves as

the basis for the Kohlbergian model, but Haidt claims that this only happens when the person has weak intuitions and has the time and cognitive resources necessary for reflection. As mentioned by Haidt (2001), philosophers might use the fifth link of his chain. Furthermore, if the person does have a strong intuition in one direction and he or she reasons his or her way to another decision, the latter might be expressed in words while the former might manifest itself under the surface.

6. *The Private Reflection Link:* Also, rarely, a person might use role playing or perspective taking to activate a new intuition supporting a different moral judgment. If several, competing intuitions are strong, then the person might pick the strongest of the intuitions or use an abstract principle to decide his or her moral reasoning.

In summary, Haidt allows that reason and emotion can both affect moral judgments, but it is clear that he finds emotional determinants to be stronger, leading other scholars to critique his theory.

Pizzaro and Bloom (2003) critiqued Haidt's theory, focusing on the order of the stages and the relative centrality of the fifth and sixth stages compared to the others. For instance, they agreed that intuitions shape moral decisions; however, they thought that prior moral reasoning initiated intuitions. Moreover, they proposed that if people wanted to change their emotional reaction to an event, they could learn to react differently to the event over time – they could cognitively control their reaction. In a published response to these scholars, Haidt (2003) agreed that people could

sometimes change the way they felt about an issue. However, he pointed out

that most changes in intuitive reactions (spurred, often, by social influence,

the fourth link in his chain) occur because we try to "morally mesh" (p. 197)

with people whom we consider to have similar (not contrary) points of view.

As an attempt to refute Haidt's claim, Pizzaro and Bloom pointed out a

study in which students with implicit racism[2] attended a class to lessen their

implicit stereotyping (Rudman, Ashmore, & Gary, 2001). However, Haidt

replied that the students attended the class not because they wanted to

override their initial reactions, but because they hated racism and wanted to

be around other people who also hated racism, suggesting that people rarely

seek out challenges to their original intuitions.

Saltzstein and Kasachoff (2004) criticized Haidt for downplaying the

role of reasoning in moral decision making. They offered a compromise

between Kohlberg and Haidt, claiming that "sometimes [intuitions] are the

result of our moral beliefs" (p. 276). They argued that many times people

have no intuitions about certain issues (they used cloning pets or using

aborted fetuses for medical research as examples of when that happens), so

they reason their way to the moral decision, and their reasoning shapes their

intuitions. Supporting this claim, they cited research on systematic vs.

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[2]An example of implicit racism is the Implicit Association Test (IAT), where participants might express a certain outward belief (e.g. African Americans are just as good as Caucasians), but when tested for speed on a computer, the participants respond slower to African American faces paired with positive adjectives than to Caucasians faces paired with positive adjectives, suggesting that African Americans and positive adjectives are incongruous (Greenwald et al., 1998).

heuristic processing (Kelman, 1961 as cited in Saltzstein & Kasachoff, 2004), central vs. peripheral routes to persuasion[3] (Cacioppo & Petty, 1979, as cited in Saltzstein & Kasachoff, 2004) and their own research on heteronomous vs. autonomous changes in moral judgments[4] (Saltzstein et al, 2004 as cited in Saltzstein & Kasachoff, 2004). These studies suggest that moral persuasion could arrive peripherally through automatic processes (i.e., emotion first, then reasoning as in the Haidt paper) or centrally through deliberate processes (i.e., reasoning first, then emotion, as in Kohlberg).

Haidt (2004) responded forcefully to Saltztein and Kasachoff's (2004) critique of his model, claiming that Saltzstein and Kasachoff critiqued a simplified view of his model wherein intuition shapes judgment, which then, in turn, shapes reasoning. Haidt commented that Saltzstein and Kasachoff forgot the most important aspect of the model: the social aspect, wherein people use their reasons to persuade other people, and in turn are persuaded by other people's reasons. As Haidt suggested, "ordinary people do not spontaneously look for evidence on both sides of a judgment question. People engage in moral reasoning not so much to figure things out

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[3] The central route of persuasion is when somebody considers the pros and cons of a particular issue before he or she decides his or her opinion, while the peripheral route of persuasion is when somebody "makes a inference about the merits of the advanced position based on simple cues in the persuasion context" (Cacioppo & Petty, 1979, p. 135). An example of the peripheral route of persuasion is agreeing with somebody just because he or she is an expert.

[4] Heteronomous changes in moral judgments occur when a child changes moral beliefs partly because of obedience to adult authority, whereas autonomous changes in moral judgments occur when a child decides his or her opinion of a moral issue by himself or herself.

for themselves, in private, but to influence others" (p. 284). Indeed, Haidt asserted that links 3 and 4 of his chain influence people in different ways; link 3 (the reasoned persuasion link) can influence people through reason, while link 4 (the social persuasion link) can influence people through social compliance. However, even in central vs. peripheral routes to persuasion, most people at most times use the peripheral route because it takes less effort; furthermore, as William James (1902/1906) noted, "[reason] will fail to convince or convert you all the same, if your dumb intuitions are opposed to its conclusions" (p. 74).

Saltzstein and Kasachoff (2004) also argued that "in the absence of any statement of possible empirical counterevidence, one might well conclude that the proposal offered by Haidt is not empirically disconfirmable and, thus, also not empirically verifiable" (p. 279). However, Haidt (2001) cited studies that linked deficits of moral emotions and tendencies towards psychopathy (Cleckley, 1955 as cited in Haidt, 2001), that linked psychopathy with atrophied regions of the brain thought to control emotion (e.g. Mednick et al., 1982, Raine et al., 1994, and Damasio, 1994 as cited in Haidt, 2001), and that showed no link between an ability to know the right moral lifestyle and the practice of that lifestyle (Damasio, 1994 as cited in Haidt, 2001). Furthermore, recent studies have demonstrated that differences in moral judgments can occur without differences in the arguments being presented. For example, Wheatley and Haidt (2005 as cited in Haidt & Bjorklund, 2005) found that hypnotizing

groups to feel disgust at certain words made their moral judgments more

severe than non-hypnotized control groups when those words were included

in the moral statement, but there was no difference when those words were

not included in the moral statement. Moreover, many hypnotized

participants rated a non-moral situation as morally wrong when the disgust-

inducing words were included in the statement. Even when the disgust did

not relate to the moral situation at all, by having students sit next to a filthy

or clean table, "some subjects [when seated at the filthy desk]…judged the

scenarios to be worse than subjects seated at the clean desk" (Schnall, Haidt,

& Clore, 2005 as cited in Prinz, 2004).

  As a strong indicator of intuitions shaping moral judgments, Haidt,

Bjorklund and Murphy (2005 as cited in Haidt & Bjorklund, 2004)

demonstrated that for a behavior that induces disgust (e.g. incestuous sex),

even with countervailing reasons (e.g. the couple used multiple forms of

contraception and felt no ill emotional aftereffects), people still thought that

the act was wrong. The experimenter would ask the participants why the act

was wrong, and the participants would continue to give reasons. Even when

the experimenter satisfied all of the participants' reasons for thinking that

the act was wrong, the participants still insisted that it had to be wrong.

Why was it wrong? It was wrong because it was wrong; the participants

could not think of any more reasons. Haidt et al. (2005) called this

phenomenon "moral dumbfounding," and used it to suggest that when an

intuition shapes a moral judgment, people will hold onto that judgment even

when there are no longer reasons for their having that judgment. Therefore, research by Haidt involving the induction of disgust demonstrated that intuitions can precede moral judgments, and people often refuse to change their mind when their moral judgments stem from a strong intuition, even when there is evidence demonstrating flaws in their reasons for holding those moral judgments. We hope to replicate these results using emotion regulation as a way to control participants' negative emotions to see if moral judgments are more likely to change without emotionally based intuitions.

Emotion Regulation

Emotions are thought to be an adaptive mechanism to avoid dangerous situations. Gross (1999) described the adaptive value of fear: "when we are afraid, our senses are sharpened, our muscles are primed to move us quickly out of harm's way, and our cardiovascular system is tuned to provide increased oxygen and energy to large muscle groups that will be called upon when we flee" (p. 556). All of these reactions occur without any cognitive thought, allowing our reaction to bypass our slow, deliberate cognition. However, often our emotional reactions are uncomfortable and counterproductive. Negative emotions have developed as a way to avoid harmful situations, such as when we need to flee immediately from a fearful bear or avoid drinking bacteria-ridden liquid. However, rarely do we encounter such dangerous situations. Furthermore, technology has increased the amount of danger caused by acting on emotional impulse. For example, "an irritable swipe that once scarcely raised a welt, is now

translated with the greatest ease into a fatal car accident or gun-related homicide" (Gross, 1999, p. 558).

Therefore, to deal with modern society, people need to both increase and decrease positive and negative emotions at certain times. People attempt to decrease emotions when the emotions "prompt behavioral responses that are no longer useful" (Gross, 1999, p. 558), as in the man who shoots someone who irritates him on the highway. People attempt to increase positive emotions when, for example, someone is depressed but does not want to come off that way to friends.

According to the "emotion generation model," people first evaluate their internal and external cues, these evaluations lead to behavioral, experiential, and physical responses, and based on the modulation of these responses, final emotional expression takes place (Gross, 1999). People can modulate emotions by selecting the situation they encounter, changing the environment they encounter, choosing the way they attend to aspects of the environment, changing the way they think about the environment, or trying to change the expression of the emotions after they occur.

The two most studied emotion regulation strategies are cognitive reappraisal and suppression. Cognitive reappraisal is defined as changing the way somebody thinks about the environment to keep unwanted emotions from happening in the first place, while suppression is defined as attempting to limit emotional expression after the emotions occur. Through cognitive reappraisal, a person can either up-regulate his or her emotion (change the

way he or she labels an object to feel more emotion toward that object) or down-regulate his or her emotion (change the way he or she labels an object to feel less emotion toward that object). For negative stimuli, somebody can up-regulate his or her emotion by imagining things getting worse or by imagining somebody close to him or her involved in the stimuli. Conversely, he or she can down-regulate his or her emotion by imagining things getting better or imagining his or her objective distance from the stimuli (Gross, 1998). Oshner et al. (2004) tested up-regulation and down-regulation strategies, and found that participants generated different physiological changes (as measured by an fMRI) and different emotional experiences by up-regulating as compared with down-regulating.

As an attempt at establishing how suppression and reappraisal affect daily experiences, Gross (2002) used individual differences in an emotional regulation questionnaire to determine if participants used suppression or reappraisal to regulate their emotions. He found that use of suppression was correlated with lower positive emotion experience, lower negative emotion expression, and higher negative emotion experience (although the relationship was weak), while the use of reappraisal was correlated with higher positive emotion experience and lower negative emotion experience. Moreover, Gross (1998) tested cognitive reappraisal and suppression with items that elicited disgust in an American population. He found that reappraisal decreased the participants' expressive behavior and overall perception of disgust, while suppression intensified physiological reaction

without changing perception. These results suggest that if participants reappraise a situation so as to experience less negative emotion, they will indeed experience less negative emotion, whereas if participants only suppress their feelings, they might not change their experience or they might actually experience greater negative emotion.

Moral Emotions and General Thesis of the Current Study

Given an ability to regulate emotional reactions, how might changes in emotional reaction influence moral judgments?. Tangney, Stuewig, and Mashek (2006) divided moral emotions into two kinds: inwardly projected moral emotions (e.g., shame, guilt) and outwardly projected moral emotions (e.g., anger, disgust). Although inwardly directed emotions might influence outward moral judgments, not enough research has examined the association, so we instead focus on outwardly directed moral emotions. Rozin et al. (1999) classified three outwardly directed, negatively valenced emotions; furthermore, they found that each of these emotions corresponded to one of Shweder et al.'s (1997) ethics[5]. According to their Contempt Anger Disgust (CAD) triad hypothesis, people experience contempt when someone violates standards of their community (e.g. a violation of expectations relating to social hierarchy), people experience anger when someone violates their autonomy (e.g. violations of rights), and people experience disgust when someone violates their divinity (e.g. reminders of our animal nature, including seeing a rotting body). Even though Rozin et

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[5] See Shweder et al.'s (1997) for a more complete description of autonomy codes, community codes, and divinity codes.

al. (1999) noted that "the divinity code is so foreign to the moral system used by educated Americans that most of [his] participants assigned … such violations to the nonmoral category" (p. 581), Goldenberg et al. (2001) found that people who were reminded of their own mortality exhibited higher levels of disgust at animal things than people who did not have the same primes. Furthermore, Rozin et al. (1997) found that many American vegetarians (who became vegetarians for moral reasons) exhibited a high level of disgust at meat. Moreover, if we consider the antigay agenda of many Evangelicals, the recent uproar over the husband of Terri Schaivo and the court system allowing her to die, and the abortion debate, we find that people do sometimes use the divine as a source of their moral judgments, and therefore, possibly exhibit disgust as part of the justification.

Therefore, if Haidt's thesis holds, and moral judgments are instigated by emotional reactions, then people who feel more anger, contempt, and/or disgust at a situation should judge the situation as more morally wrong than people who do not feel those emotions. Furthermore, because Gross (1998) has provided evidence of the efficacy of emotional regulation as a way of controlling emotional reaction to a stimulus, emotion regulation should provide a way of experimentally manipulating how much negative emotion participants feel, and consequently, change their moral judgment of a stimulus. In other words, because cognitive down-regulation can limit bad emotional experience, people who watch a video designed to instill negative emotions while down-regulating their emotional reaction

should feel less of an emotional change than people who do nothing who up-regulate their emotional reaction. Furthermore, down regulators should show a smaller change in moral judgment after watching the video.

The Current Study

Abortion is a moral issue, straddling the ethical divide between an individual's rights and religious values. Pro-life adherents believe that pro-choice sentiment is a consequence of living in an institutionalized and academic world where people can rationalize almost anything. Furthermore, according to Gorney (2004), the pro-lifers believe that most people are complacent, and despite general opposition to unrestricted abortions (at least in private), most people do not want to rethink a notoriously political issue. The only way that pro-life supporters think that they can win the abortion issue is "visuals – literal visuals, to shock people from complacently; and verbal descriptions that force people to keep picturing what actually takes place in an abortion-procedure room" (Gorney, 2004, p. 36).

People who are against abortion couch the procedure in emotional terms: "'If you're holding that child in your hand, and knowingly killing the child, you can't argue any more that it's not really a human being. You just can't do it'" (Keri Folmar, quoted in Gorney, 2004, p. 38). Supporting the Haidtian moral theory, Keri Folmar did not even describe the reasoning for her moral opinion. Abortion was just wrong – looking at the child, and then imagining the child dying right in front of her gave her all the reasons she

needed. She had an immediate emotional reaction (sadness and disgust), and then without even citing reasons for holding her view, she insisted that her view was one everybody would share, emotionally.

The pro-life movement has created videos of partial birth abortions so that people will come face to face with the gruesome procedure. Supporters hope that people will feel anger at the doctors, disgust at the operation, and thus motivation to join them on their crusade to restrict abortion rights. They created the "Center For Bioethical Reform" and published videos with titles like "Silent Scream," "The Hard Truth," "The Harder Truth," "Choice Blues" and more, each video designed to appeal through emotional images and sounds, and hopefully, persuade people to become pro-life.

Very few studies have examined the efficacy of these videos or their method of persuasion. To test their method of persuasion, and consequently, the accuracy of the first step in Haidt's model, I showed one of the videos, "The Harder Truth" to college students. My first hypothesis was that if college students are affected emotionally by the video, they should increase their negative emotional reaction and in turn, change their abortion attitudes to a more pro-life stance. However, to further test the structure of their attitudes, I also asked participants to differentially regulate their emotions. My second hypothesis is that people who down-regulated their emotions would feel less negative moral emotion and consequently

would change their attitudes less than people who up-regulated or did not control their emotions.

Method

Participants

I recruited 59 participants (37 males, 21 females) from the Syracuse University Introductory Psychology applicant pool. Most of the participants were freshmen ($n = 48$), but the sample also included a few sophomores ($n = 5$), juniors ($n = 4$), and seniors ($n = 1$). Participants were aged 18 ($n = 27$), 19 ($n = 19$), 20 ($n = 6$), 21 ($n = 5$), and 22 ($n = 1$). Most of the participants were Caucasian ($n = 35$), with some African Americans and Hispanics ($n = 9$ and $n = 6$, respectively). The remaining participants reported other ethnicities. I assigned participants subject numbers and to one of three categories according to an online random number generator. Twenty participants were randomly chosen for the up-regulation condition, 23 for the down-regulation condition, and 16 for the control condition.

Materials

Each of the participants viewed a video and completed several questionnaires. The 4 min video "The Harder Truth" released by the Center for Bioethical Reform depicts recently aborted second and third trimester fetuses. The film opens with a 4 sec clip of the title over a black screen. Following the clip, only visual images are used to create persuasive effect; the video is silent. The film's website recommends that anyone in 7th grade and above should be allowed to see the film.

I used four standardized rating scales in our study and one open ended questionnaire. The open-ended questionnaire asked participants to "describe how your emotions changed while watching the video," "describe what went through your mind while watching the video," and "describe how your inner dialogue changed your emotions." I wanted to use this questionnaire as a check to see if our participants followed directions while watching the video, and to have a qualitative description of our participants' experiences.

We added two items (disgust and nausea) to the Positive and Negative Affect Scale (PANAS) (Watson et al., 1988), as a way to discretely measure the change in participant disgust as a function of our video priming manipulation. The original PANAS asked participants to rate on a scale of 1 (Very Slightly or Not At All) to 5 (Extremely) how intensely they felt 20 emotions ranging from interested, exited, and happy, to sad and angry. Watson et al. (1998) found that the PANAS factored onto two loadings, which they called Positive Affect and Negative Affect. Both factors correlated highly with previous affect, depression, and anxiety measures. Furthermore, each factor correlated highly with predicted measures of positive and negative affect; negative affect correlated with stress, while positive affect changed based on social activity.

The Abortion Attitudes Questionnaire (Stets & Leik, 1993) contained 20 questions assessing people's opinion about abortion. The questions ranged from strong feelings against abortion (e.g. "Abortion is

murder") to rather weak feelings against abortion (e.g. "Abortion after the third trimester is murder"). The questions were originally rated on a 7-point scale, but I put the questions on a continuous online scale with 1000 possible responses for each question. The participants were instructed to move the cursor to how strongly they felt for or against any of the questions. I changed the scale from a discrete 7-point scale to a continuous scale to prevent carry-over effects, since the participants completed the scale several times.

The last two questionnaires, the Bodily Cues Questionnaire (Miller et al., 1981) and the Emotion Regulation Questionnaire (Gross & John, 2003) were used to check how much the participant pays attention to bodily cues and how much natural emotional regulation the participant engages in during his or her day to day experiences. In each of the questionnaires, the participant rated from 1 (Strongly Disagree) to 5 (Strongly Agree) five and ten items respectively on each of the specified topics (See Appendix A).

Procedure

Each of the 59 participants entered a small, individual computer room with low lighting. After they gave written informed consent to participate, the experimenter asked them to fill out the first PANAS and explained that they had to mark how they felt each of the emotions "on average." The experimenter then put on the computer screen the first Abortion Attitudes Questionnaire and explained the instructions to the

participant; the experimenter then left the room and let the participant fill out the questionnaire in solitude.

When the participant finished the Abortion Questionnaire, the experimenter read instructions on how the participant should watch the video. I took, as a prototype of our instructions, the instructions that Gross (1998) used for his emotion regulation experiment. Our up-regulation instructions were as follows:

> I will show you the video in just a moment. Please view it very carefully, and make sure to pay attention to the entire video. In addition, I would like to see how well you can control the way you view things. Therefore, it is important to me that as you watch the video, you try your best not to stifle any emotions you may feel in response to it. Instead, try to take emotional perspectives relevant to what you're seeing in the video. Think about what you are seeing in such a way that you feel a great deal about the situations depicted.

Our down-regulation instructions were as follows:

> I will show you the video in just a moment. Please view it very carefully, and make sure to pay attention to the entire video. In addition, I would like to see how well you can control the way you view things. Therefore, it is very important to me that you try your best to view this video from the detached perspective of a medical professional

learning about a surgical procedure. In other words, as you watch the video, try to think about it objectively and analytically rather than personally and emotionally. Think about what you are seeing in such a way that you don't feel anything at all.

Our no-regulation (control) instructions were as follows:

I will show you the video in just a moment. Please view it very carefully and make sure to pay attention to the entire video.

Following the instructions, I asked the participant to paraphrase the instructions as a check for understanding, explaining the instructions again to them if they had misinterpreted them. Then I maximized the size of the video screen, pushed play on the video (I started exactly 4 seconds into the video and ended exactly 4 minutes into the video), closed the door, and let them watch the video alone. After they finished the video, I asked them to complete the Abortion Attitudes Questionnaire again, then I asked them to complete the PANAS (instead of average emotion I wanted to know how much emotion they felt during the video), the Open Ended Questionnaire, the Bodily Cues Questionnaire, the Emotion Regulation Questionnaire, and then a demographics questionnaire in that order. I then dismissed the participant.

Two weeks following the initial study, I asked each of the participants to fill out the third PANAS (again, asking how much emotion

they felt at the time they filled out the questionnaire) and the third Abortion

Attitudes Questionnaire, each accessed through a link I sent to their e-mail.

Results

Descriptive Statistics

  I calculated a total score for the abortion questionnaire summing the

individual questions. I scaled the abortion questionnaire so that each

question ranged from 0 to 1000. I wanted the scale to have as many data

points as possible so that the participant would not be able to remember his

or her previous responses when asked to complete the abortion attitudes

questionnaire for the second and third times. Because there were 20

questions on the questionnaire, the minimum possible score was 0 and the

maximum possible score was 20,000. Certain items were reverse-scored,

such that for each question a higher score related to a more pro-choice

stance, while a lower score related to a more pro-life stance. Therefore, if I

subtracted the total abortion score of the second time from the total abortion

score of the first time, a positive number would indicate that the participant

became more pro-life.

  Scores on the initial abortion questionnaire (i.e. the abortion

questionnaire before I showed participants the abortion video) ranged from

138 to 18998. I found that the up-regulation condition scores ranged from

702 to 18928 ($M = 13445.5$, $SD = 5018.15$), the down-regulation condition

scores ranged from 3406 to 18410 ($M = 12208.70$, $SD = 4694.44$), the no-

regulation condition scores ranged from 138 to 18742 ($M = 12297$, $SD =$

4787.18). I performed a one-way ANOVA on scores of the initial abortion questionnaire for condition, and found no effect of condition on initial abortion score (F = .410, p = .666). This suggests that the initial randomization for abortion scores worked and that there was no meaningful difference in abortion attitudes between the groups prior to watching the abortion video. Thus, any differences in the changes of abortion score between groups should not have occurred because of differences in initial abortion attitudes.

On the abortion attitudes questionnaire immediately following the video, scores in the up-regulation condition ranged from 82 to 19168 (M = 10993.3, SD = 5685.13), scores in the down-regulation condition ranged from 1310 to 18138 (M = 10915.04, SD = 4991) and scores in the no-regulation condition ranged from 126 to 15708 (M = 9778.13, SD = 4448.20). Paired samples t-tests indicated that abortion scores significantly changed between the initial assessment (before the video) and the second assessment (after the video) for the entire group of participants (t = 6.592, p < .001). Furthermore, measures of effect size using Cohen's d indicated a moderate change in abortion attitudes (d = .41). Just by watching the video, the participants became somewhat more pro-life. This indicates that overall, the video was effective at changing abortion attitudes in the desired direction.

Not all of our participants completed the two-week follow-up questionnaire; only 14 out of 20 in the up-regulation condition, 15 out of 23

in the down-regulation condition, and 12 out of 16 in the no-regulation condition. This is fewer than I had hoped would; however, I had a server malfunction and I also had issues with the operating systems of our participant's personal computers (they could not fill out the follow-up questionnaire on a Macintosh).

Results from the follow-up testing indicated that scores in the up-regulation condition ranged from 1174 to 19488 ($M = 10272.71$, $SD = 5943.31$), scores in the down-regulation condition ranged from 2898 to 16826 ($M = 11210.4$, $SD = 4336.08$), while scores in the no-regulation condition ranged from 154 to 14592 ($M = 9212.17$, $SD = 4509.77$). Paired samples t-tests indicated that abortion scores did not change significantly between the second assessment (after the video) and the third assessment (two weeks following the video) for the entire group of participants ($t = -.454$, $p = .653$). This suggests that the effect of the video was maintained beyond the short-term memory stage.

Figure 2 displays the mean abortion attitudes by condition. The slopes of the up-regulation condition and the no-regulation condition appear to be similar, suggesting that our up-regulation instructions did not lead to results different from those of the control group instructions. Compared to the no-regulation condition, the down-regulation condition slope between time one and time two was less steep, suggesting that our down-regulation instructions were effective and the participants in the down-regulation condition did not change their abortion attitudes as much as participants in

the no-regulation condition. Furthermore, compared to the up-regulation condition, the down-regulation condition slope between time two and time three was less negative, suggesting that the video had less of a lasting effect on those participants who down-regulated their emotions. However, although the graph suggests an association, it does not provide the precision needed to assess statistical significance.

Effects of Condition on Abortion Attitudes

I performed several t-tests to assess whether participants in the down-regulation condition had less of a change in abortion attitudes than participants in the no-regulation group and participants in the up-regulation group. I first created a difference score by subtracting the total score on the second abortion attitudes questionnaire from the total score on the first abortion attitudes questionnaire for each participant. This new score represented the total change in abortion attitudes. Because the participant did not do anything other than watch the video between the two assessments, the difference between the first and second scores could only be due to the video and measurement error.

After performing an independent samples t-test comparing the change in up-regulation abortion attitudes and the change in no-regulation abortion attitudes, I found no effect for the up-regulation condition compared with the no regulation condition ($t = -.086$, $p = .932$). Because the variance of the up-regulation condition was significantly greater than the variance of the no-regulation condition ($F = 7.722$, $p = .009$), I believe that

the reason the up-regulation condition had no effect is that either the participants did not understand the up-regulation directions or that they had trouble implementing the up-regulation directions. This could be due to a disparity between our instructions to feel more emotion toward the video and a natural tendency to try to limit their emotional experience toward the video.

I then performed an independent samples t-test comparing the change in down-regulation abortion attitudes and the change in no-regulation abortion attitudes; furthermore, I compared the change in down-regulation abortion attitudes and the change in up-regulation abortion attitudes. I found that the difference between the down-regulation and no-regulation conditions approached significance ($t = -1.951$, $p = .059$) and the effect size was rather large ($d = .635$), while the difference between the down-regulation and up-regulation conditions was not significant ($t = 1.468$, $p = .151$). Again, I think that the misunderstanding of the up-regulation condition hid an effect of the difference between up-regulation changes in abortion attitudes and down-regulation changes in abortion attitudes. Furthermore, I had very few participants per condition, and if I had more participants, I would have had more power to detect statistically significant differences.

Next, I examined the change between abortion attitudes immediately following the video and abortion attitudes two weeks following the video. As expected, I found no difference between the up-regulation condition and

the no-regulation condition ($t = .069$, $p = .946$), no difference between the down-regulation condition and the no-regulation condition ($t = .808$, $p = .427$), and no difference between the down-regulation condition and the no-regulation condition ($t = -.427$, $p = .672$). However, I also found no difference between the change of abortion attitudes for the entire group of participants and 0 ($t = -.454$, $p = .653$), suggesting that the attitudes between the second and third distribution of the questionnaire did not change significantly. Therefore, for all conditions, the video had a lasting effect on abortion attitudes that persisted at least two weeks following the video.

Emotion and Abortion Attitudes

I first checked to see if disgust and negative emotions (e.g. distressed, upset, hostile, and disgusted) changed from before to after the video. As I predicted, the video significantly changed whether or not our participants thought they felt both disgust ($t = -11.034$, $p < .001$, $d = 1.950$) and negative emotions ($t = 9.972$, $p < .001$, $d = 1.696$). I also found that the number of negative emotions after the video had a significant relationship with scores on the second abortion attitudes questionnaire ($r = -.336$). However, after removing from our data set the participants from the up-regulation condition, neither the change in disgust ($r = -.086$) nor the change in negative emotions ($r = -.099$) from the first questionnaire to the second questionnaire correlated significantly with the participants' condition.

The lack of a correlation and the very strong emotion change from before the video to after the video suggest one of two things: either the

manipulation did not differentially alter disgust and negative emotions or something prevented participants from expressing this difference in a way that I could analyze. Because disgust and negative emotions significantly changed from before the video to after the video, I feel that the video altered disgust; also, placing our participants in different conditions did almost significantly change the way they reacted to the video. However, two qualities of the PANAS prevented us from observing accurate changes in emotional experience. First, the PANAS only measures gross changes in emotions; I would have no way of differentiating between small changes in disgust (e.g. the scale cannot differentiate between a 4.0 and a 4.1). Second, I may be seeing a ceiling effect; the scale has a maximum level of five. Since a large majority of our participants gave ratings of "5" on the scale, I could not tell if participants in the no-regulation condition would have put down a 8.9 if given the chance while participants in the down-regulation condition would have put down a 7.2 if given the chance. In addition, because my hypothesis is that people make judgments about things intuitively and then rationalize it after, a scale where people judge their own disgust is an inadequate measure for implicit and automatic reactions. If I cannot expect participants to know what is persuading them to change their intuitive reactions, how can I expect participants to accurately describe the disgust that is initiating those changes? I should have instituted a physiological measure that could have captured minute changes in

emotional reactions and prevented the introspective error that might have resulted from using the PANAS.

The Open Ended Questionnaire

I distributed a questionnaire to document our participants' perception of their emotion regulation and how that affected their attitudes toward the video. Most of the participants in the down-regulation condition found it difficult to control their emotion to the video. One person wrote, " I tried to stay as neutral as possible during the video; however it was impossible," and then continued, "it's one thing to talk about abortions and form opinions on them; however, after seeing one … it did change my emotions toward abortions; I now find it disgusting." Another person explained, "I was trying to stay detached as instructed but I couldn't help thinking things to myself and they were thoughts that matched my emotions, which made it personal to my beliefs and moral … I wondered how many other [introductory Psychology] students threw up who saw this because I know I have a strong stomach but this really disgusts me."

However, some of the participants used emotion regulation to successfully lower their emotion toward the video. For instance, one of the down-regulation participants wrote, "my 'inner dialogue' kind of 'calmed me down' because … I was not watching this for pleasure – rather analytically." Another person, who had a child, wrote "I told myself that everyone makes [his or her] own choices and that everything happens for a

reason, which made me able to look at the film simply as a procedure. I still felt uneasy at the end of the film, but oddly almost numb to it."

Discussion

Main Research Findings

      I attempted to evaluate Haidt's socio-intuitive model of moral judgments. Furthermore, I wanted to explore the persuasive power of videos designed to change a person's moral stance. Thus, I had our participants regulate their emotions to an abortion video, hypothesizing that people who down-regulated their emotions would feel less emotion and consequently, change their abortion attitudes less, than people who up-regulated their emotions or people who did not change their emotions.

      I found several important effects predicted by our hypotheses. First, negative emotions negatively correlated with pro-choice abortion attitudes, and the abortion video both induced negative emotions and had a persistent effect of changing abortion attitudes (as measured by the abortion questionnaire) to a more pro-life stance. Furthermore, although our results were not statistically significant, our findings suggest that people asked to down-regulate their emotions changed their attitudes less than people not given that instruction. This is remarkable, considering Kohlberg's insistence at presenting his participants with hypothetical and emotionally distant situations. Kohlberg thought that interviewing the boys, instead of observing them make moral decisions, would create "conditions that support expression of the individual's most mature moral thinking" (Colby &

Kohlberg, 1987, p. 120 as cited in Krebs & Denton, 2005). Our results

suggest that if he had presented his participants with an emotional situation,

their responses may have been quite different.

However, our manipulation did not significantly change negative

emotion, as measured by the PANAS. People in the down-regulation

condition did not change their negative emotions any more or less than

people in the no-regulation condition. However, even though people in the

down-regulation condition did not change their emotions more than people

in the no-regulation condition, our manipulation succeeded in limiting the

change in abortion attitudes for the people who heard the down-regulation

instructions.

Problems and Future Directions

I attempted to test the first stage in Haidt's model by instilling more

or less affect in my participants and observing how that differentially altered

their moral judgments. By observing how moral judgments changed based

solely on a change in affect, I attempted to ascertain whether emotion

precedes moral judgment or moral judgment precedes emotion. However,

the fourth link of Haidt's (2001) thesis suggests that people care about the

social position of the persuader. I found that some of the participants'

abortion attitudes actually became more pro-choice as a result of the video.

Participants who thought that the video was trying to change their attitudes

might have not paid attention to the video – several of the participants

actually mentioned that the most disgusting part of the video was that it was trying to change their attitudes.

As mentioned before, I believe that the problem of emotion change was not one of manipulation but one of assessment. Participants in the down-regulation condition might have changed their emotion less, but a ceiling effect, our inability to detect minute changes in emotion through the PANAS, and introspective error might have hid the manipulation. Therefore, a physiological measure of anger or disgust (e.g. sympathetic nervous system activation or stomach contractions) might have eliminated the measurement problems that I faced using the PANAS. I also might test different emotion regulation instructions to determine the most successful instructions for limiting negative emotions of moral situations. Even though Gross (1998) tested similar instructions with a disgust inducing situation (he used an amputated arm), I not only wanted to limit negative emotion, I also wanted to limit negative emotion to a moral situation and observe how this changed the participants' moral stance. My video might have been too emotionally arousing for our specific instructions.

For instance, 20-30 sec into the video, rather abruptly, a disembodied fetus protruded from the mother covered in blood. As the participants revealed in the open-ended questionnaire, the immediacy and unexpectedness of the disgusting images might have instigated automatic reactions before our participants had a chance to use any cognitive control strategies to regulate their emotions. Furthermore, different attitude

structures might have allowed some participants to better regulate their emotions than other participants. Huskinson and Haddock (2004) found that people who had high "Need for Cognition" scores and low "Need for Affect" scores on a questionnaire evaluated objects in cognitive terms, while people who had high "Need for Affect" scores and low "Need for Cognition" scores evaluated objects in affective terms. They labeled the first category as Cognitive Based Attitudes and the last category as Affective Based Attitudes. Not surprisingly, they found that affective persuasion techniques were more successful amongst people with a high need for affect while cognitive persuasion techniques were more successful amongst people with a high need for cognition (e.g. philosophers). Moreover, as Haidt (2001) explained

> Children start off with limited ability to resist temptation, but as the hippocampus and frontal cortex finish their development, children become more able to inhibit impulsive behaviors. Some children start off with a more effective cool system because of better or faster frontal cortex development. Frontal cortex development makes these children smarter, and they therefore perform better on measures of moral reasoning, but their improved moral behavior comes more from their greater self-regulatory abilities than from their greater moral reasoning abilities.
>
> p. 823

Future studies should assess the difference between a cognitive disposition

and an affective disposition in emotion regulation strategies as it applies to

moral situations. Some people (e.g., philosophers or academics) might have

more training in analyzing emotional situations than other people. If I

compared people with a cognitive disposition to people with an emotional

disposition, I might find that people who have a cognitive disposition are

better able to implement the cognitive regulation strategies required to

override their initial emotional reactions.

Conclusion

Haidt's (2001) thesis generally held, and moral emotions related to

opinions of a moral issue. Furthermore, just by telling participants to

regulate their emotions, I found that those participants were persuaded less

by a moral video. However, more research needs to be done assessing the

specific ways of changing moral emotions and the specific dispositions

better able to regulate emotions. Haidt, Kohler, and Dias (1993) found that

college students from America decided that an act was wrong based on

whether or not it harmed somebody; however, they also found that this

effect was more pronounced in academic situations. To actually assess the

constructs of disgust and other moral emotions as they relate to moral

decisions, we need to leave academia and test participants in real situations.

Kohlberg's main assessment problems were his insistence on presenting

participants with artificial and hypothetical situations and judging how they

would react in every situation based on those assessments. Instead of

testing participants in a similar situation (e.g. a psychological research lab watching a video), we need to put participants in situations where they would have to make the moral decisions that we are asking them to judge. Only then could we know whether they truly believe their attitudes.

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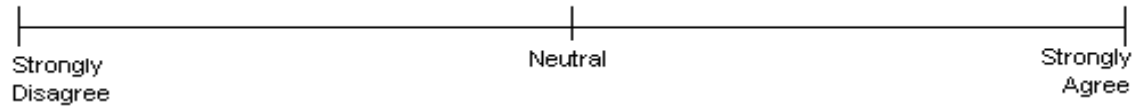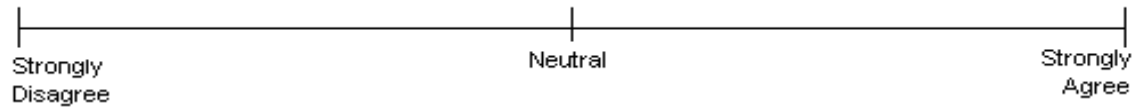
Appendix A

Measures

PANAS

Below are a number of words that describe different feelings and emotions. Read each word and then circle the appropriate number under the correct column next to that word. Mark each word for the **degree you feel this way**, that is, **for how you feel in general.**

	Very Slightly or Not at All	A Little	Moderately	Quite A Bit	Extremely
INTERESTED	1	2	3	4	5
DISTRESSED	1	2	3	4	5
EXCITED	1	2	3	4	5
UPSET	1	2	3	4	5
STRONG	1	2	3	4	5
GUILTY	1	2	3	4	5
SCARED	1	2	3	4	5
HOSTILE	1	2	3	4	5
ENTHUSIASTIC	1	2	3	4	5
PROUD	1	2	3	4	5
IRRITABLE	1	2	3	4	5
ALERT	1	2	3	4	5
ASHAMED	1	2	3	4	5
INSPIRED	1	2	3	4	5
NERVOUS	1	2	3	4	5
DETERMINED	1	2	3	4	5
ATTENTIVE	1	2	3	4	5
JITTERY	1	2	3	4	5
ACTIVE	1	2	3	4	5
AFRAID	1	2	3	4	5

1. Abortion should be legal.

Strongly Disagree	Neutral	Strongly Agree

2. Abortions should be legal in the case of incest.

Strongly Disagree	Neutral	Strongly Agree

3. Abortions should be legal in the case of rape.

Strongly Disagree	Neutral	Strongly Agree
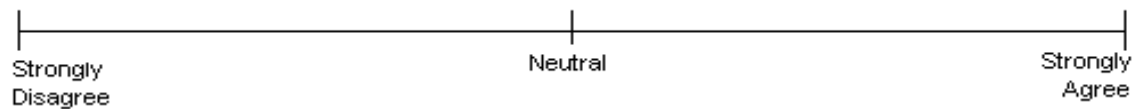
4. Abortion should be equally available regardless of income.

Strongly Disagree	Neutral	Strongly Agree
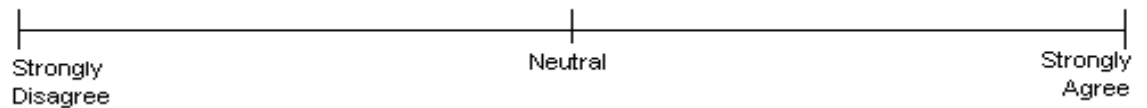
5. Abortion should be legal when the mother's health is in danger.

Strongly Disagree	Neutral	Strongly Agree
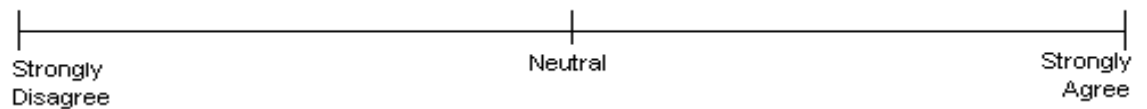
6. Abortion should be available through public health clinics.

Strongly Disagree	Neutral	Strongly Agree
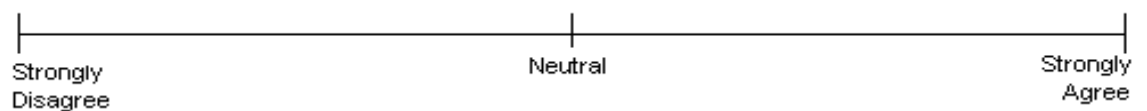
7. The law has no right to tell a woman what to do with her body.

|————————————————————|————————————————————|
Strongly   Neutral   Strongly
Disagree   Agree
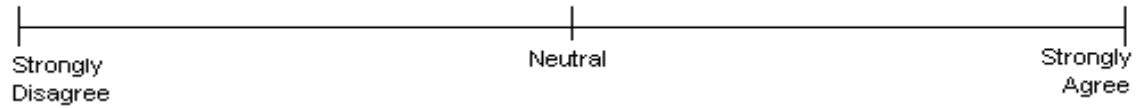
8. Abortions should be legal if birth control fails.

|————————————————————|————————————————————|
Strongly   Neutral   Strongly
Disagree   Agree
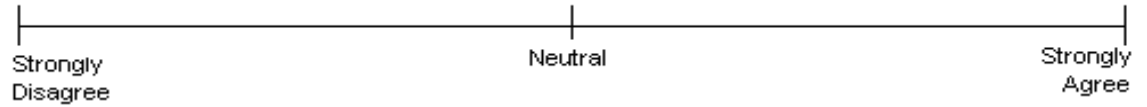
9. The United Way should support agencies which provide abortions.

|————————————————————|————————————————————|
Strongly   Neutral   Strongly
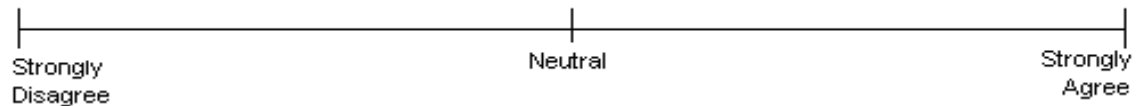Disagree   Agree
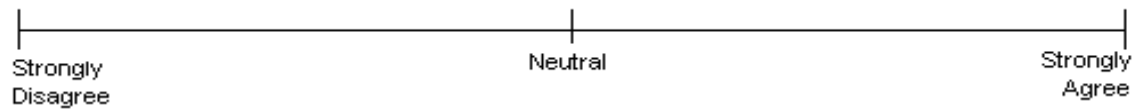
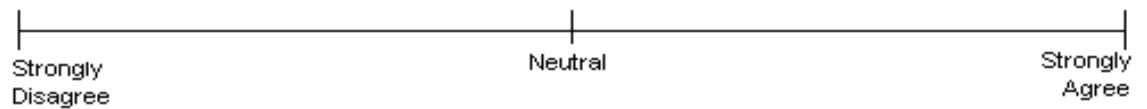10. Federal, state, or local tax money should be used to provide abortions.

|————————————————————|————————————————————|
Strongly   Neutral   Strongly
Disagree   Agree

11. Abortion is murder.

|————————————————————|————————————————————|
Strongly   Neutral   Strongly
Disagree   Agree
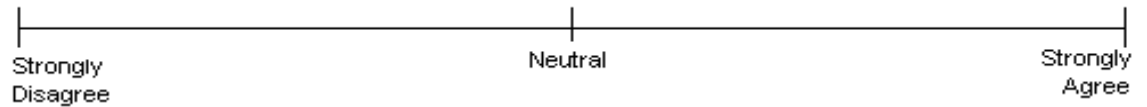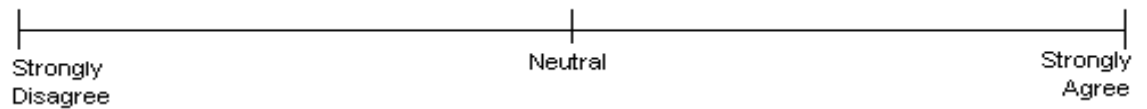
12. Abortion is against my beliefs.

|————————————————————|————————————————————|
Strongly   Neutral   Strongly
Disagree   Agree

13. Life exists from the moment of conception.

|————————————————————|————————————————————|
Strongly   Neutral   Strongly
Disagree   Agree

14. Abortion is a sin against God.

Strongly Disagree	Neutral	Strongly Agree
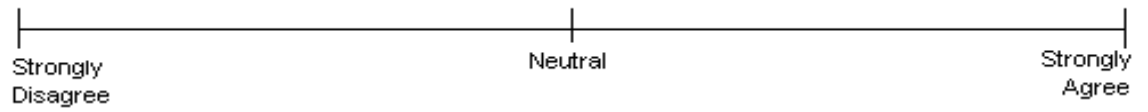
15. A fetus is a human being.

Strongly Disagree	Neutral	Strongly Agree
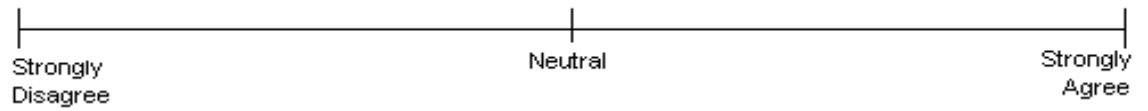
16. A fetus should have legal rights.

Strongly Disagree	Neutral	Strongly Agree
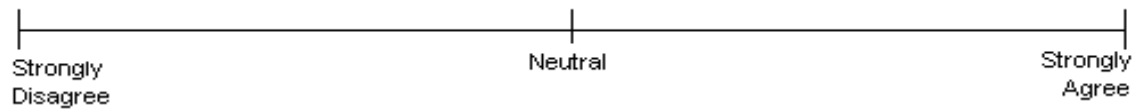
17. Abortion after the first trimester is murder.

Strongly Disagree	Neutral	Strongly Agree
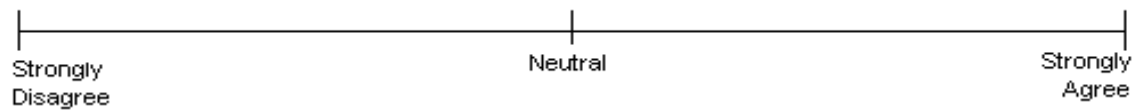
18. Abortion should be entirely the woman's decision.

Strongly Disagree	Neutral	Strongly Agree
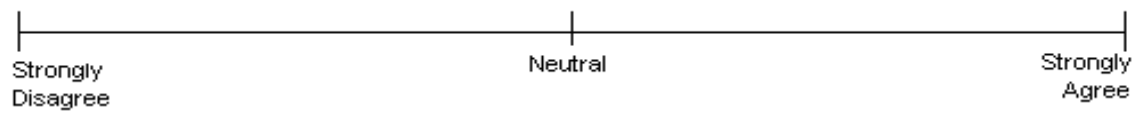
19. The father should have the right to prevent the mother from having an abortion.

Strongly Disagree	Neutral	Strongly Agree
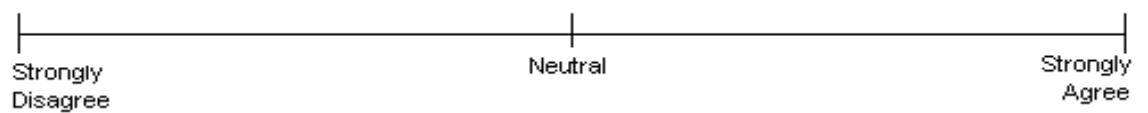
20. A woman should have to tell the father before having an abortion.

Strongly Disagree	Neutral	Strongly Agree
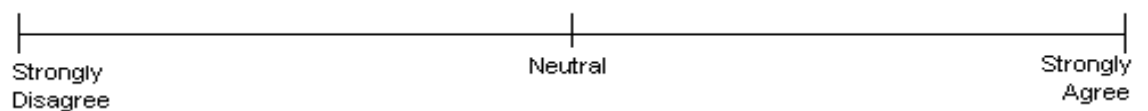
Please rate the extent to which you agree or disagree with each of the following statements.

1. I am sensitive to internal bodily tensions.

1	2	3	4	5

strongly
disagree

strongly
agree

2. I know immediately when my mouth or throat gets dry.

1	2	3	4	5

strongly
disagree

strongly
agree

3. I can often feel my heart beating.

1	2	3	4	5

strongly
disagree

strongly
agree

4. I am quick to sense the hunger contractions of my stomach.

1	2	3	4	5

strongly
disagree

strongly
agree

5. I am very aware of changes in my body temperature.

1	2	3	4	5

strongly
disagree

strongly
agree

We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. We are interested in two aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave. Although some of the following questions may seem similar to one another, they differ in important ways. For each item, please answer using the following scale:

1------------------------2-----------------------------3--------------------------4-------------------------5
Strongly   **Neutral**   **Strongly**
Disagree   **Agree**

1. ____   When I want to feel more *positive* emotion (such as joy or amusement), I *change what I'm thinking about*.

2. ____   I keep my emotions to myself.

3. ____   When I want to feel less *negative* emotion (such as sadness or anger), I *change what I'm thinking about*.

4. ____   When I am feeling *positive* emotions, I am careful not to express them.

5. ____   When I'm faced with a stressful situation, I make myself *think about it* in a way that helps me stay calm.

6. ____   I control my emotions by *not expressing them*.

7. ____   When I want to feel more *positive* emotion, I *change the way I'm thinking* about the situation.

8. ____   I control my emotions by *changing the way I think* about the situation I'm in.

9. ____   When I am feeling *negative* emotions, I make sure not to express them.

10. ____   When I want to feel less *negative* emotion, I *change the way I'm thinking* about the situation.

Appendix B

Figures

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

Figure 1. The social intuitionist model of moral judgments. The numbered
links, drawn for Person A only, are (1) the intuitive judgment link, (2) the
post hoc reasoning link, (3) the reasoned persuasion link, and (4) the social
persuasion link. Two additional links are hypothesized to occur less
frequently: (5) the reasoned judgment link and (6) the private reflection link.
From "The emotional dog and its rational tail: A social intuitionist approach
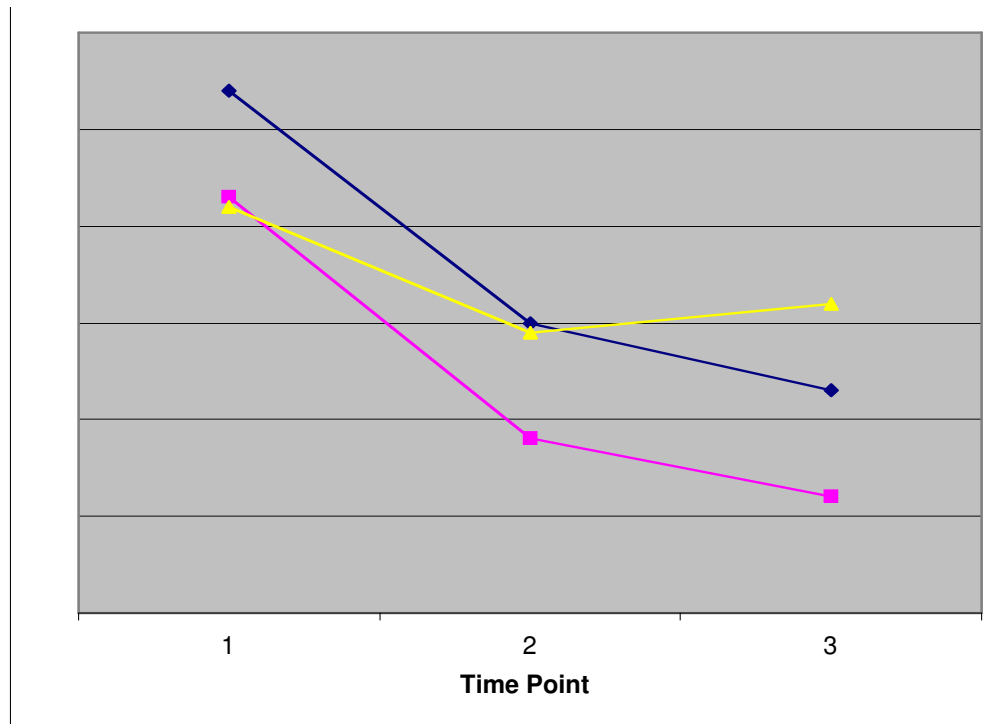to moral judgment," by J. Haidt, 2001, *Psychological Review,* 108, p. 818.

Figure 2. Mean abortion attitudes by condition. The vertical axis represents scores on the abortion attitudes questionnaire, in thousands, starting from 8000 and ending at 14000. The horizontal axis represents the time that the participant filled out the questionnaire. The diamond shape represents the up-regulation condition, the triangle shape represents the down-regulation condition, and the square shape represents the no-regulation condition