The Evolution of Moral Opinion

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The Evolution of Moral Opinion

Where does Morality come from and is there a bias?

Maggie Morgan

Abstract: The main goal of this research was to explore the effects of our world views on our moral assessments. The basic hypothesis was that humans will be biased in their moral judgments by their pre-existing beliefs. In order to fully understand this phenomenon, one has to look at where morality comes from and what shapes or forms it, keeping in mind the evolutionary factors that may be involved. The results indicated that world views do indeed affect our moral assessments and that we do not develop them solely on the basis of rational thinking.

Introduction

Everyday individuals make decisions. Sometimes, they are logical, and at others they are moral. In order to understand morals in the context that is meant, it is being defined as: of, pertaining to, or concerned with the principles or rules of right conduct or the distinction between right and wrong; ethical: moral attitudes; expressing or conveying truths or counsel as to right conduct, as a speaker or a literary work; founded on the fundamental principles of wright conduct rather than on legalities, enactment, or custom: moral obligations; capable of conforming to the rules of right conduct: a moral being; conforming to the rules of right conduct (opposed to immoral): a moral man (Dictionary 2013).

When an individual thinks about what morals are, they tend to think about what they have learned from others. There are of course different sources of morality that can be seen in daily life. There are our parents who enforce the boundaries of right and wrong. These enforcers of our moral decisions are establishing these rules as codes of conduct for life. Whether or not one should have manners, follow the law, go to school, be a good person, follow your heart or find a good job are just a few of the categories that parents

tend to cover in their upbringing of children. These lessons too of course have come from past generations. So it seems that our families have played a major role in the development of what we believe is right or wrong.

There are other supporters of morality as well though. We have the education system that our parents push us to attend, where the golden light of opportunity awaits us after graduating and welcomes us to the world after being enlightened by this system. This very system that functions in our society, in one way or another molds our morality as well. One may learn what is right or wrong from their parents, but the schools enforce more regulations to this long code that we naturally act upon in our daily life without thinking twice. When sitting in a crowded room with a speaker, do you sit quietly and listen or do you talk amongst yourselves? When you have a project in front of you, do you work hard to complete it or leave it be and not care to start or finish it? The answers to these questions are quite simple and come instantly. When given a task, you act quickly to complete it with your best efforts; when sitting in an audience, you are respectful and give the speaker your full attention. These are notions that society has deemed fit through the different subcultures that exist such as the family and education system.

Then again, one could argue that their parents had no role in their lives or development, and they did not obtain a degree from school, yet they still have this developed sense of morality, but why? There are many subcultures within a society and another one that exists is the friend layer. We naturally tend to become attracted to those around us who appear like us or have similar interests. These are the people with whom we create bonds, share our experiences and our opinions on the world with. Our personal views are not only shaped by these subcultures, but also our world view.

Perhaps in other layers, our world views are affected as well. Taking a look at social media, we are bombarded with information and clashing opinions every day. There are wars, protests, causes, etc. being thrown in our face via the internet, television, radio and bulletin boards. It is impossible to escape the constant opinion of others and what one should think about it. Does this play a role in the development of what we believe is right or wrong or has our personal spheres already developed those basic foundations of morality to the point where we are set in our ways? Let's look at an example in order to decide. During times of war, we harm our neighbors if we are told to do so by our government; in times of peace we send aid to those who might be deemed our enemy later such as the United States-Iraq/Afghanistan relationship after 9/11. What if the threat was within your own country? You are born to love your home and support its cause in order to survive. You are told this by your parents, who have helped make it grow and thrive for you; your schools tell you to support your country through learning its history and understanding its vast importance as well as respecting it and learning songs of your country to show your patriotism and support; your friends allow you to share this patriotic opinion of your homeland and allow it to grow and those who think otherwise are cast from your circle; the media enforces the beauty of your country and dictates to you what is necessary in order to continue its survival.

Let's look at history and see some examples of how our moral sense of right and wrong can be influenced by those layers outside our personal. In World War II, Germany was still devastated from World War I and this led to desperation. All they needed was someone to help guide them in the 'right' direction. Adolf Hitler pulled Germany to a greater place than it had been before and rallied the people's spirit. The media was used to

send messages of blame and hatred cast upon German neighbors who had differing religious views, such as the Jewish population, as well as those who were homeless or mentally unstable. This shows how one's sense of right or wrong can be shifted greatly, especially if you are the one on the benefits receiving side. These types of various ideas about our morals indicate that they are based on moral reasoning and develop from cultural forces; however, new research finds that morality is at least in part the result of underlying psychology, which was programmed into us to create this sense of right and wrong. Furthermore, it appears that our moral reasoning seems to be more than the product of intuition alone. This leads to a natural bias in our moral judgments, which is the focus of this research.

Theory

It is also plausible to look at another influence on where morality comes from. It may come from within our evolved psychology. Many researchers have utilized this paradigm to expose a rich and powerful set of forces, which effect human actions in diverse and significant manners. The basic idea is that humans, like other species, evolved psychological adaptations to deal with problems they faced in their past. Perhaps, like our abilities to adapt to situations, our sense of right or wrong was also developed through this same process. How else could one explain your reasoning for an action or decision that seems to have no logical answer? A simple response to being questioned is to reply with the source from which you learned. If someone asks you why you listen to your teacher, your response tends to be: 'I learned it in school' or 'it's what I was taught was right.' What happens when the subject in question is more complex? What about world views?

In our interconnected society of the 21st century, there are constant calls for situations in which our sense of morality is brought forth to judge upon. There are topics such as government policies, abortion, environmental integrity, war, famine, education, etc. For some, the defensive argument may be grounded, such as abortion. For those who are pro-life, they argue that it is not anyone's decision to take a life and in some cases it is only up to God. For those who are pro-choice, they argue that is a woman's body and therefore she may do what she deems fit with it, which is one of the rights that women have demanded control over for centuries. There is the inevitable battle of right verse wrong in any of these situations. Who is to decide?

Evolution was the key to our survival as individuals. What we have been programmed to consider is right or wrong could have been instrumental in helping us to surmount certain problems we faced and to ultimately reproduce successfully. To further explain the process of evolution in a manner that is easy to understand, one must start with the individual. Individuals adapt and evolve in order to reproduce. Reproduction is the key element in evolution, not necessarily just to survive. We cannot look at the group yet because a group is made up of individuals, and there can be no group if the individual does not exist first. In order to accomplish this difficult first phase, our species developed what can be called a 'selfish' psychology. It is all about what is good for the self and no one else at this point. Survival of the fittest is the popular term for this kind of thinking although it does not highlight the ultimate objective, which is long-term reproductive success. The main priorities of the individual were to care for the young, stay away from dirty things that could make you sick (learned through observation and perhaps experience), do what is best for you and your immediate kin. The development of altruism evolved as a salient component

of human psychology as a solution to the problems faced by social animals. In order to gain the advantages of living in a group, one had to develop tendencies to cooperate, as well as compete within a group. The evolution of kin selection (Hamilton 1964) and reciprocal altruism (Trivers 1971) represents two of the more significant psychological developments that underlie human altruism.

Humans further developed their sociality such as they encountered selection pressures to become group competitors. This altruism seems to have produced the coalitional psychology that characterizes human group interactions today. The phenomenon of ethnocentrism demonstrates the cross-cultural tendency to glorify one's own group and look down on others who are not members.

The emotions that came with the first phase of development, pertaining to private spheres for reproduction, now grow into the public sphere within the society (Haidt 2012). Now the good of the group has become a priority. Rules of good and bad start to change and become known as right or wrong. These are commonly referred to as norms. Norms can also be thought of as morals pertaining to a particular society or culture. They vary from one group to the next. These norms started to shape the behavior of individuals within the group atmosphere, and we would express them through approval or disapproval.

Understanding the development of our underlying psychology leads right into our topic of morality and where it comes from. We have developed senses of right and wrong before we are taught them by our influential spheres. It therefore comes in two parts: the social and the evolutionary. It can be compared to our language development. We are programmed to learn a language, but the actual sounds that we assign to meanings are based on our culture (Pinker 2003). Our sense of right and wrong is programmed into us and

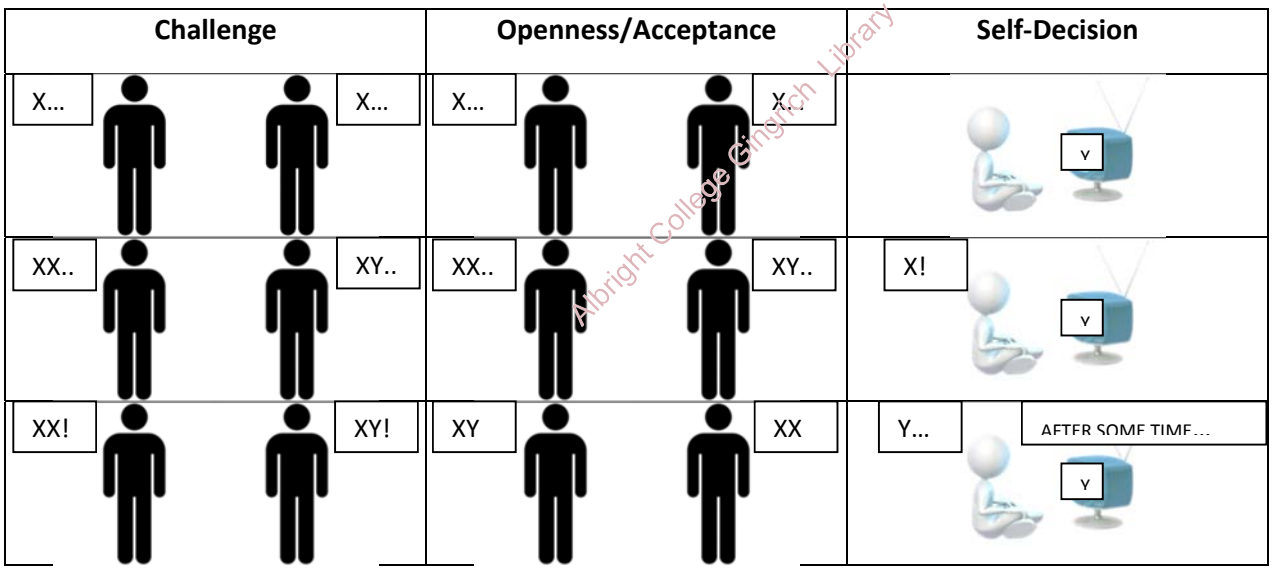
there are limitations to how it can be formed, but it is also flexible to be dependent on cultural forces for the specifics of the morals in each group. This also explains why some moral values are similar across countries and generations despite not being connected socially in any way. Just as all languages maintain a universal grammatical syntax (Pinker 2003) so our morals maintain some universal aspects (Haidt 2012). By tracing our history, we can see that since we have a common origin, that of evolution, we also share the same evolutionary psychology that over thousands of years formed into what we now call morals. These morals are linked to our emotions because we were drawn to our kin and then to the group, and their survival and reproduction were the most important part of our lives. We needed to care for young and care for the society in order to begin to deem what was good/right or bad/wrong. Why else would we care about their survival unless we had an emotional stake in them?

The next goal is to dissect morality itself as a psychological development. What is morality in our mental state of being? It can itself be split into two parts: intuition and reason. These are also referred to emotions/passions and logic/rationale. Does one control the other or do they work together in order to allow us to make an appropriate decision that we can then judge as right or wrong? This study suggests that intuition can sway our reason when making a decision just as it had during our evolutionary process. In this way, we may try to make a rational decision, and in cases where it is pure logic, this is irrefutable (mathematics). Individuals make decisions every day all the time. So, it is understandable that these mental processes are acting very quickly. The question is whether or not it is our intuition reacting first or our reason. Evidence that the idea of intuition firing off before

reason is supported when we look at examples, disregarding as previously stated those that require pure logic.

Figure 1.1 describes three different scenarios in which we react to situations. The first situation is when we challenge another person when we hear that they have a different opinion than us. In most cases, but not all, we tend to shut down and it turns into a battle of 'I am right and you are wrong' instead of situation two; in this case we are more understanding and listen to what the other person has to say even if their opinion is different. In the end, we might actually consider what they said and the evidence they used to support it. The third situation is when we make decisions on our own. When we watch the media, it tries to influence us and shape our morality. At first we are resilient, but if given some time to think over the argument and to relax our initial intuitive response to counter the argument, again we see that it is possible to consider the influence's view (Haidt 2012).

Figure 1.1



Perhaps we have become involved in a moral argument in terms of our world view, such as abortion. A person can have their quick response such as those previously mentioned for either side of the discussion; however, if the matter is pushed further, and you are expected to explain your beliefs further, we run into a wall. If we are thinking rationally, we should be able to support and defend our opinion with ease. The other issue is that when we are in a debate over a moral subject, we have opposing forces at work using the same psychological process.

When one cannot always explain why they believe they are right, but refuse to believe that they are wrong, this is referred to as "unwarranted certitude". This can be formally defined as: a strong belief in the validity of an idea/principle/position without solid support to verify it, even in the face of other logical ideas/principles/positions. This is the crux of this research and is the basis of our hypothesis that a bias exists within us due to our evolutionary history and psychological development of morality. Whereas we make a decision using our reason, or so we like to believe, our intuition may sway it in the nanoseconds before we actually express our view. When we have a reaction, it is our intuition speaking out, and then we use our reason to justify the response. If this is truly the case, then there is potential for us to have a bias to support others of our similar views, personal and world. When we approach any subject that requires us to make a decision or have a personal view, we are using our sense of morality and that emotional psychological aspect that drove us to thrive as a species so long ago is still present, pushing our decisions rather than only weighing them on pros verse cons. In summary, our hypothesis is that we are biased in favor of our own beliefs and group identities, rather than rational, when we make moral assessments.

Literature Review

Studies on morality have existed since the time of Plato. It is a subject that man has tried to understand, how does one make decisions? Are we driven by intuition or by reason? In Plato's *Timaeus*, he discusses what ought to be in control when making a decision. Reason should be the master of passions, aka intuition and if an individual can master the emotions, than they will live a life of reason and justice (Weitzenfeld 2010). However other philosophers have argued the opposite. David Hume believed that moral decisions were linked to the intuition. He discussed that reason is the servant of passion and ought to be that way (Hume 1739).

It is possible that a balance may exist as well though. Thomas Jefferson wrote a dialogue between the heart and the head on his feelings for a married woman. In her love letter to Maria Cosway, he described how reason and sentiment are independent masters of the body (Jefferson 1786).

The popular idea for moral sentiment by Richard Haidt is the idea of intuitionism. His model includes the intuitive elephant and the rational rider. His discussion revolves around the idea that even though the rider makes decisions, the intuition is stronger and can sway that decision. A rider can direct the elephant, but the elephant is much stronger and can disobey the rider, leading us to follow our intuition and leaving the rider to explain our decision. He also explains the confirmation bias as "the tendency to seek out and interpret new evidence in ways that confirm what you already think…if it's your belief, then it's your possession-your child, almost-and you want to protect it, not challenge it and risk losing it" (Haidt 2012). This potentially explains why people get so defensive when their opinions are "attacked" as well as how evidence can be twisted by our own minds. Hence the process of

trying to explain why we feel or react a certain way when we get into a conversation that involves moral sentiment afterwards and struggle to explain it because sometimes we cannot.

Benjamin Franklin also had a similar theory about decision-making. Franklin's logical decision tree is the idea to create a list of reasons to do or not to do something; despite a person trying to be logical, they most likely end up with their intuition (or gut feeling) pushing them in a direction (Bell 1956).

Methodology

In order to test the hypothesis of the existence of a bias in our moral decisions, we look at the subject of abortion. The experiment may be used on different moral based subjects with an obvious change of wording. The survey exists in printed and online form. The experimental design consists of two parts: a likert scale and scenarios ranging from most to least appropriate. The appropriateness rating allows the respondent to express their intuitive moral response. Demographics are also collected in case further research would like to be done adding any of these types of variables. The demographics questions consist of: In what state or U.S. territory do you live; how would you characterize the area you live in; are you male or female; which category below includes your age; what is the highest level of school you have completed or the highest degree you have received; which of the following categories best describes your employment status; how much money did you earn in the last year (if you are married and/or a dependent include the total earnings of your household); what is your ethnicity/race; are you now married, widowed, divorced, separated, or never married; how many children to you have?

The final question of the first part consists of the first likert scale. The respondent is asked to indicate where they lie on the topic of abortion. The scale appears in Table 1.1 below.

Table 1.1

Extremely Committed to Pro-Life	Strongly	Somewhat	Neutral	Somewhat	Strongly	Extremely Committed to Pro-Choice
○	○	○	○	○	○	○

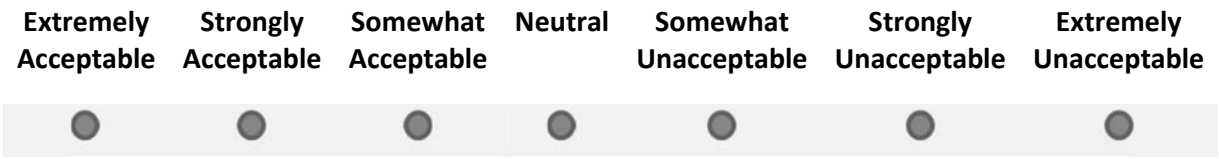
There is then an open text box where respondents may explain their perspective if they so choose. The first likert scale allows us to identify their world view before approaching any scenarios. They make this decision based on their intuitive feelings on the subject now that they know where the survey is leading. The open response box allows for the respondent to take the time after their intuition has reacted and uses reason to justify their opinion, since this is the order in which it is believed our moral capacity functions. Starting from this point in the experimental design, we can predict how a respondent will react to the second part of the survey if a bias exists. Despite the scenarios to follow, a respondent should support their group's view, despite the appropriateness level.

The second part of the survey includes another likert scale as well as scenarios with random assignment of three groups. Since the survey subject is abortion, the three groups are pro-life, pro-choice and mathematics club. The mathematics club serves as the control for the experiment since no intuitive reaction is required due to the use of pure logic. The three scenarios range from least harmful, to most harmful. The original experimental design had six scenarios, but it was deemed unnecessary to have too many when preliminary testing showed that only one for each level of appropriateness was required for analysis of

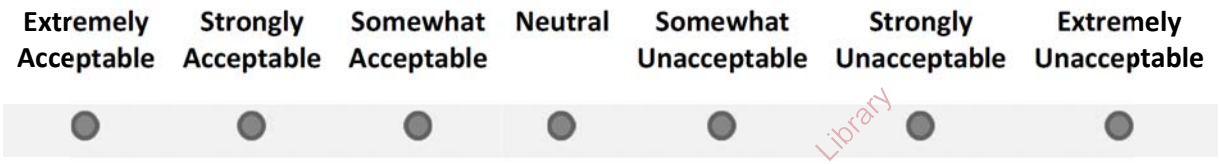
the respondent's view. The three groups and scenarios are broken down as follows with the likert scale:

- Pro-Life organization arguing for Pro-Life perspectives
- Pro-Choice organization arguing for Pro-Choice perspectives
- Mathematics Club arguing for a hypothesis about Numbers

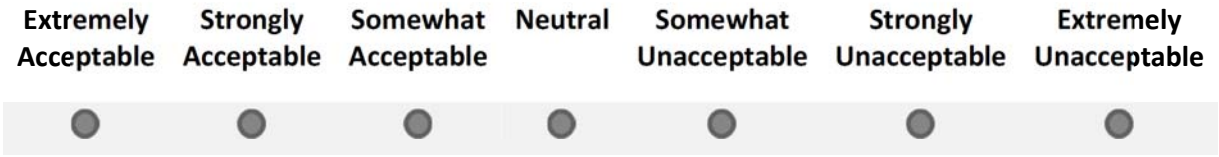
- **Scenario 1:** They (randomized group from above) hold a meeting for anyone who is interested where they point out the strengths of their position and the weaknesses of other positions in order to convince people that their position is correct.



- **Scenario 2:** They (randomized group from above) hold a meeting where they invite as many people as they can persuade to come, and they provide food and prizes for the attendees before they point to the strengths of their position and weaknesses of other positions in order to convince people that their position is correct.



- **Scenario 3:** They (randomized group from above) hold a meeting where they invite as many people as they can persuade to come, and they attempt to convince the attendees that their lives will be less enjoyable if they don't support their side of the issue.



The survey ends with another open text box to allow the respondent to briefly explain their responses for the three questions in which they rated the behaviors of the groups that were

designated. Again, the purpose of this open response is to allow the response to use their reason to support their intuitive judgment upon the situations that they rated.

Based on our hypothesis, those individuals who rate themselves as Pro-Choice or Pro-Life supporters should deem their respective group's behavior acceptable despite the ranging level of appropriateness of the overall situation. This relies upon the psychological adaption that we have developed from when we supported our group because it was for the good of the group that we acted and made decisions upon. Acting against the group or the belief of the group could lead to loss of reputation, ostracizing or exile which could imply death without the support of one's society. This psychology still exists within us and therefore should be present in the results. In regards to the control variable, the results should be similar since respondents do not need to use their intuitive judgment, only their logical.

Results

Table 2.1

	Total Number	**Scenario 1**	**Scenario 1**	**Scenario 1**	**Scenario 2**	**Scenario 2**	**Scenario 2**	**Scenario 3**	**Scenario 3**	**Scenario 3**
		Pro-Choice	Math	Pro-Life	Pro-Choice	Math	Pro-Life	Pro-Choice	Math	Pro-Life
Prolife1	44	12	15	17	15	13	16	13	16	15
Prolife 2	7	3	1	3	3	2	2	1	3	3
Prolife 3	4	0	2	2	0	4	0	1	2	1
Neutral4	11	6	2	3	3	5	3	3	0	8
Prochoice 5	6	2	3	1	1	2	3	2	1	2
Prochoice 6	33	10	9	13	12	6	16	13	7	12
Prochoice 7	54	11	20	21	17	21	15	19	23	11
Total	159	44	52	60	51	53	55	52	52	52

Table 2.1 displays the overall count of responses that were received from the survey. The scenarios were split apart so that we can see how many respondents answered those scenarios with the individual groups that they were randomly given with each scenario upon taking the survey. The far left column indicates where those respondents rated themselves on the topic of abortion; 1=extremely, 2=strongly, 3=somewhat, 4=neutral, 5=somewhat, 6=strongly, 7=extremely (refer to Table 1.1).

The results were statistically analyzed using T-tests. Rated groups Extremely Committed to Pro-Life (Pro-Life 1) and Extremely Committed to Pro-Choice (Pro-Choice 7) were analyzed with a one-tailed t-test since we are expecting a direction in the relationship based on our hypothesis. These groups were tested because they had a sufficient amount of responses for statistical analysis, while the others did not have enough responses. Analysis was done adding rated groups Extremely and Strongly Committed to Pro-Life (Pro-Life 1+2), and Strongly and Extremely Committed to Pro-Choice (Pro-Choice 6+7) as well.

It is expected that when comparing between self-rated groups as well as the responses within each self-rated group in each scenario, that we will see a greater average level of harshness for the self-rated group that opposes the randomly assigned group for the scenario as well as increasing levels of harshness within the responses. The tests will then show us whether or not the relationship is significant. The mathematics group in each scenario was tested using a two-tailed t-test since they are expected to share the same direction and respondents should not have a problem with the appropriateness of a group that deals with pure logic.

Findings

Table 2.2

Between Self-Rated Groups

Self-Rated Group	**Pro-Life 1**	**Pro-Choice 7**
Scenario	Scenario 1	Scenario 1
Randomly Assigned Group to Scenario	Pro-Choice	Pro-Choice
Average	4.833333	3.181818
T-Test 1 Tail	0.024454*	
*≤.05	**≤.01	***≤.001

Table 2.2 displays the results for the respondents rated extremely committed to pro-life and pro-choice. These results relate to scenario one with the pro-choice group's behavior being rated. We expect to see that those who have opposing views to those of the assigned group will be rated much harsher than those who share their views. Therefore, as seen in the table, respondents who rated themselves as extremely committed to pro-life rated the behavior of the pro-choice group on average more harshly than the self-rated pro-choice group did. The t-test also shows that this is a significant relationship at the .05 level.

Table 2.3

Between Self-Rated Groups

Self-Rated Group	**Pro-Life 1**	**Pro-Choice 7**
Scenario	Scenario 1	Scenario 1
Randomly Assigned Group to Scenario	Pro-Life	Pro-Life
Average	1.529412	3.904762
T-Test 1 Tail	1.2^{-005}***	
*≤.05	**≤.01	***≤.001

Table 2.3 describes the relationship between the same scenario seen in Table 2.2, but with the assigned group of pro-life. Here we should see the opposite relationship to that of the first since the self-rated extremely committed to pro-choice respondents should rate the pro-life group more harshly. This is seen in the overall average between the two groups of respondents and it is significant at the .001 level.

Table 2.4

Between Self-Rated Groups

Self-Rated Group	**Pro-Life 1**	**Pro-Choice 7**
Scenario	Scenario 1	Scenario 1
Randomly Assigned Group to Scenario	Mathematics Club	Mathematics Club
Average	3.133333	3.05
T-Test 2 Tail	.89638	
*≤.05	**≤.01	***≤.001

Table 2.4 indicates the relationship of our self-rated groups on the control assigned group. These were measured with a two-tailed t-test since they were expected to be similar

and not indicate a direction. As shown above, the overall average of appropriateness ratings were similar and the test revealed that it is not significant.

Table 3.1

Between Self-Rated Groups

Self-Rated Group	**Pro-Life 1**	**Pro-Choice 7**
Scenario	Scenario 2	Scenario 2
Randomly Assigned Group to Scenario	Pro-Choice	Pro-Choice
Average	4.533333	4.705882
T-Test 2 Tail	0.401544	
*≤.05	**≤.01	***≤.001

The relationship above describes the results from scenario two with the appropriateness being rated of the pro-choice group. Here we see an error in our hypothesis since the self-rated pro-lifers should have rated the assigned group more harshly than the pro-choice since it is the opposing group; however, we see here that the two are very similar and the pro-choice respondents actually rated their own group a tad harsher. These results throw off scale and resulted in a non-statistical significance.

Table 3.2

Between Self-Rated Groups

Self-Rated Group	**Pro-Life 1**	**Pro-Choice 7**
Scenario	Scenario 2	Scenario 2
Randomly Assigned Group to Scenario	Pro-Life	Pro-Life
Average	2.5	3.8
T-Test 2 Tail	0.016459*	
*≤.05	**≤.01	***≤.001

Table 3.2 returns to following the hypothesis as the self-rated pro-choice respondents rated the behavior of the pro-life assigned group more harshly. There is also a statistical significance at the .05 level.

Table 3.3

Between Self-Rated Groups

Self-Rated Group	**Pro-Life 1**	**Pro-Choice 7**
Scenario	Scenario 2	Scenario 2
Randomly Assigned Group to Scenario	Mathematics Club	Mathematics Club
Average	4.692308	3.904762
T-Test 2 Tail	0.203898	
*≤.05	**≤.01	***≤.001

The control variable holds concrete for our hypothesis yet again, as we can see that the overall average harsh ratings are relatively similar as well as no statistical significance existing.

Table 4.1

Between Self-Rated Groups

Self-Rated Group	**Pro-Life 1**	**Pro-Choice 7**
Scenario	Scenario 3	Scenario 3
Randomly Assigned Group to Scenario	Pro-Choice	Pro-Choice
Average	5.230769	4.368421
T-Test 1 Tail	0.105618	
*≤.05	**≤.01	***≤.001

The table above reveals the relationship between the extremely committed respondents and their appropriateness ratings of the behavior of the assigned group of pro-choice. Again, the hypothesis is upheld since the self-rated pro-lifers rated the assigned group more harshly. The t-test did not reveal a staggering significance, but it is just under the .1 level.

Table 4.2

Between Self-Rated Groups

Self-Rated Group	**Pro-Life 1**	**Pro-Choice 7**
Scenario	Scenario 3	Scenario 3
Randomly Assigned Group to Scenario	Pro-Life	Pro-Life
Average	3.8	5.363636
T-Test 1 Tail	0.021153*	
*≤.05	**≤.01	***≤.001

The relationship between respondents for the randomly assigned group of pro-life indicates the opposite of Table 4.1 as expected. The extremely committed pro-choice

respondents rated the pro-life group's behavior more harshly. The t-test revealed that there is a statistical significance at the .05 level of analysis.

Table 4.3

Between Self-Rated Groups

Self-Rated Group	**Pro-Life 1**	**Pro-Choice 7**
Scenario	Scenario 3	Scenario 3
Randomly Assigned Group to Scenario	Mathematics Club	Mathematics Club
Average	3.5625	5
T-Test 2 Tail	0.003425**	
*≤.05	**≤.01	***≤.001

Again we see an error in our design since the control group was rated more harshly by the extremely committed to pro-choice respondents and tipped the average which then revealed a significant relationship at the .01 level. There should not be any significance with the control variable and the two extremely committed groups should have rated the mathematics group more closely.

Table 5.1

Between Self-Rated Groups

Self-Rated Group	**Pro-Life 1+2**	**Pro-Choice 6+7**
Scenario	Scenario 1	Scenario 1
Randomly Assigned Group to Scenario	Pro-Choice	Pro-Choice
Average	4.666666667	2.71428571
T-Test 1 Tail	0.00092782***	
*≤.05	**≤.01	***≤.001

The above table shows that the combined pro-life respondents rated the behavior of the opposing group, pro-choice, more harshly than the combined pro-choice respondents and that there is a statistical level of significance at the .001 level.

Table 5.2

Between Self-Rated Groups

Self-Rated Group	**Pro-Life 1+2**	**Pro-Choice 6+7**
Scenario	Scenario 1	Scenario 1
Randomly Assigned Group to Scenario	Pro-Life	Pro-Life
Average	1.84210526	3.67647059
T-Test 1 Tail	4.4271^{-05}***	
*≤.05	**≤.01	***≤.001

As expected, we can see that the combined pro-choice respondents rated the behavior of the pro-life group more harshly than the combined pro-life respondents. There is also a statistical significance at the .001 level.

Table 5.3

Between Self-Rated Groups

Self-Rated Group	**Pro-Life 1+2**	**Pro-Choice 6+7**
Scenario	Scenario 1	Scenario 1
Randomly Assigned Group to Scenario	Mathematics Club	Mathematics Club
Average	3.125	3.20689655
T-Test 2 Tail	0.44408075	
*≤.05	**≤.01	***≤.001

The neutral category shows similar ratings of appropriate behavior by both sides combined and no statistical significance.

Table 6.1

Between Self-Rated Groups

Self-Rated Group	**Pro-Life 1+2**	**Pro-Choice 6+7**
Scenario	Scenario 2	Scenario 2
Randomly Assigned Group to Scenario	Pro-Choice	Pro-Choice
Average	4.55555556	4
T-Test 1 Tail	0.17026387	
*≤.05	**≤.01	***≤.001

Table 6.1 displays that there is a similar level in harshness rating for the behavior of the pro-choice group with both sets of combined respondents. This is similar to the results found in Table 3.1 and it also shows no significance.

Table 6.2

Between Self-Rated Groups

Self-Rated Group	**Pro-Life 1+2**	**Pro-Choice 6+7**
Scenario	Scenario 2	Scenario 2
Randomly Assigned Group to Scenario	Pro-Life	Pro-Life
Average	2.5	4.12903226
T-Test 1 Tail	0.0009547***	
*≤.05	**≤.01	***≤.001

Continuing with our hypothesis, the combined pro-choice respondents rated the pro-life group more harshly in their behavior. It is also statistically significant at the .001 level.

Table 6.3

Between Self-Rated Groups

Self-Rated Group	**Pro-Life 1+2**	**Pro-Choice 6+7**
Scenario	Scenario 2	Scenario 2
Randomly Assigned Group to Scenario	Mathematics Club	Mathematics Club
Average	4.78571429	3.85185185
T-Test 2 Tail	0.06340938	
*≤.05	**≤.01	***≤.001

The table above shows that the responses are a tad further apart for the neutral category and that there is a slight significance at the .1 level.

Table 7.1

Between Self-Rated Groups

Self-Rated Group	**Pro-Life 1+2**	**Pro-Choice 6+7**
Scenario	Scenario 3	Scenario 3
Randomly Assigned Group to Scenario	Pro-Choice	Pro-Choice
Average	5.07142857	4.3125
T-Test 1 Tail	0.11198867	
*≤.05	**≤.01	***≤.001

Although the test showed that there is no statistical significance, the respondents of the combined pro-life group still rated the pro-choice group's behavior more harshly, following the hypothesis.

Table 7.2

Between Self-Rated Groups

Self-Rated Group	**Pro-Life 1+2**	**Pro-Choice 6+7**
Scenario	Scenario 3	Scenario 3
Randomly Assigned Group to Scenario	Pro-Life	Pro-Life
Average	4.27777778	5.08695652
T-Test 1 Tail	0.09703494	
*≤.05	**≤.01	***≤.001

The table shows displays that although barely statistically significant at the .1 level, the combined pro-choice respondents still rated the pro-life group's behavior more harshly.

Table 7.3

Between Self-Rated Groups

Self-Rated Group	**Pro-Life 1+2**	**Pro-Choice 6+7**
Scenario	Scenario 3	Scenario 3
Randomly Assigned Group to Scenario	Mathematics Club	Mathematics Club
Average	3.63157895	4.83333333
T-Test 2 Tail	0.00276893*	
*≤.05	**≤.01	***≤.001

The neutral category is a little different in harshness rating and it was statistically significant at the .05 level, but the responses are still close enough.

Tables 8.1-10.3 compare the responses within the self-rated groups, comparing the harshness rating between the opposing group, pro-choice, and same group, pro-life. In any of these tables, we expect to see that the harshness rating on the opposing group is much

greater than that of the similar group's behavior. Keep in mind that the average harshness rating should have a corresponding relative increase through each scenario down the columns. For example, in Tables 8.1-8.3, the pro-life respondents had a relatively increasing harshness level rating from scenario 1 to 3 (4.8333333, 4.5333333, 5.2307692). This is due to the scenarios becoming more inappropriate.

Table 8.1

Within Self-Rated Groups

Self-Rated Group	**Pro-Life 1**	**Pro-Life 1**
Scenario	Scenario 1	Scenario 1
Randomly Assigned Group to Scenario	Pro-Choice	Pro-Life
Average	4.8333333	1.5294188
T-Test 1 Tail	7.67^{-006}***	
*≤.05	**≤.01	***≤.001

It can be seen that it is statistically significant at the .001 level. For the pro-life respondents, we expect to see a decrease between these two numbers across the row, which is present above, indicating the decrease in harshness rating of opposing group verse similar group.

Table 8.2

Within Self-Rated Groups

Self-Rated Group	**Pro-Life 1**	**Pro-Life 1**
Scenario	Scenario 2	Scenario 2
Randomly Assigned Group to Scenario	Pro-Choice	Pro-Life
Average	4.5333333	2.5
T-Test 1 Tail	0.0021331*	
*≤.05	**≤.01	***≤.001

We can see that there is a decrease across the row in harshness rating and it is statistically significant at the .05 level.

Table 8.3

Within Self-Rated Groups

Self-Rated Group	**Pro-Life 1**	**Pro-Life 1**
Scenario	Scenario 3	Scenario 3
Randomly Assigned Group to Scenario	Pro-Choice	Pro-Life
Average	5.2307692	3.8
T-Test 1 Tail	0.029995*	
*≤.05	**≤.01	***≤.001

Again, there is a decrease across the row for harshness rating with pro-life respondents and a statistical significance at the .05 level of analysis.

Table 9.1

Within Self-Rated Groups

Self-Rated Group	**Pro-Choice 7**	**Pro-Choice 7**
Scenario	Scenario 1	Scenario 1
Randomly Assigned Group to Scenario	Pro-Choice	Pro-Life
Average	3.181818182	3.904761905
T-Test 1 Tail	0.170800967	
*≤.05	**≤.01	***≤.001

Tables 9.1-9.3 should show an increase across the average harshness rating row since the pro-choice group is in the first column. As seen above, this is the case.

Table 9.2

Within Self-Rated Groups

Self-Rated Group	**Pro-Choice 7**	**Pro-Choice 7**
Scenario	Scenario 2	Scenario 2
Randomly Assigned Group to Scenario	Pro-Choice	Pro-Life
Average	4.705882353	3.8
T-Test 1 Tail	0.07575893	
*≤.05	**≤.01	***≤.001

We see a similar problem as we did in previous tables relating to the pro-choice respondents rating the pro-choice group's behavior. This table shows what was noted earlier more clearly, how they rated their own group's behavior more harshly. In turn, instead of an increase across the row, we see a decrease. Perhaps there was an error in data entry that resulted in this mix up.

Table 9.3

Within Self-Rated Groups

Self-Rated Group	**Pro-Choice 7**	**Pro-Choice 7**
Scenario	Scenario 3	Scenario 3
Randomly Assigned Group to Scenario	Pro-Choice	Pro-Life
Average	4.368421053	5.363636364
T-Test 1 Tail	0.076548147	
*≤.05	**≤.01	***≤.001

There is a statistical significance at the .1 level of analysis, as well as an increase across the row, as expected.

Table 10.1

Within Self-Rated Groups

Self-Rated Group	**Pro-Choice 6**	**Pro-Choice 6**
Scenario	Scenario 1	Scenario 1
Randomly Assigned Group to Scenario	Pro-Choice	Pro-Life
Average	2.2	3.307692308
T-Test 1 Tail	0.03005305*	
*≤.05	**≤.01	***≤.001

Pro-life 2 respondents are not shown in a table because the lack of respondents for that self-rated category. However, we did have enough respondents to show the within self-rated category of pro-choice 6 respondents, as shown in the above table and those to follow. We expect to see an increase across the average harshness rating row as well as down the columns. There is also statistical significance at the .05 level.

Table 10.2

Within Self-Rated Groups

Self-Rated Group	**Pro-Choice 6**	**Pro-Choice 6**
Scenario	Scenario 2	Scenario 2
Randomly Assigned Group to Scenario	Pro-Choice	Pro-Life
Average	3	4.4375
T-Test 1 Tail	0.017099816*	
*≤.05	**≤.01	***≤.001

There is an increase across the row and a statistical significance at the .05 level of analysis.

Table 10.1

Within Self-Rated Groups

Self-Rated Group	**Pro-Choice 6**	**Pro-Choice 6**
Scenario	Scenario 3	Scenario 3
Randomly Assigned Group to Scenario	Pro-Choice	Pro-Life
Average	4.230769231	4.833333333
T-Test 1 Tail	0.206248594	
*≤.05	**≤.01	***≤.001

Although the table above does not show a statistical significance, the relationship still stands as increasing across the row and down the columns despite the similar behavior ratings for the opposing and similar groups.

Conclusion

The experiment was designed to show that people have a bias created by unwarranted certitude when they make moral judgments. Out of the two t-tests that were used, the between self-rated groups and the within self-rated groups, most of the results supported our hypothesis. The pro-life respondents tended to rate their group's behavior less harshly than that of the pro-choice group's behavior, even as the scenarios increased in inappropriateness. The pro-choice respondents tended to respond in the same way, other than the issue that was discussed in scenario 2, where the pro-choice respondents began to rate the behavior of their own group more harshly than predicted. This could be the result of data entry error during our experimental analysis. We also expected to see that as scenarios increased in inappropriateness, the respondents would rate their own group's behavior gradually harsher to accommodate the scenarios, which was present throughout the tables, excluding scenario 2 of pro-choice respondents rating the pro-choice group. Therefore, it appears that our hypothesis is supported and that we do in fact have bias to support the group that upholds and shares our moral opinions.

Further Research

In the case of further research being conducted, the issue with the strongly committed to pro-choice group (pro-choice 6) should be resolved. Perhaps there was a data issue or a mix up with the analysis testing. Another issue that may be resolved in the future could be having more respondents with which to test. This might resolve the issue of not having statistical significance in relationships where it should be present as the result of a lack of respondents.

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