Effects of Consensus and Construal on Certainty and Attitude Stability

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ABSTRACT We all look at the world in different ways. Construal is characterized as either "high" or "low", and is the approach one takes to their outlook on the world. Specifically, individuals who are likely to decipher the world in an abstract, individualistic way are using high construal, and individuals who lean towards a concrete, collectivistic perspective are using low construal. Consensus falls into either a "positive" or "negative" category, and can be described as the feedback one gets that either supports or opposes an individual's position. Consensus mainly takes cues from the world and society around us, while construal affects how we interpret and think about that world. Our research team was curious about the effect of mindset on a person's certainty of belief. Further, we wanted to examine the likelihood of a person's certainty to change their opinion when categorized by different world views (either abstract or concrete) and social responses (either positive or negative), as well as individual differences between these specific cases. As researchers, we determined individual construal on the basis of hypothetical situations, looked for possible interactions with high and low consensus data, and then sought to find how those two conditions affected levels of certainty. Paired with relevant consensus, we believed that if an individual had a higher level of construal, they would also have higher levels of attitude certainty, while individuals with low construal would have lower levels of attitude certainty. We found that low construal, or concrete thinking, had the most significant effect on certainty and that consensus and construal had a moderate interaction. This directed us to believe that certainty was more easily manipulated for low construal thinkers.

INTRODUCTION

Do values come from within the brain or outside it? Is personal mindset more influential than social context? Is viewpoint or majority opinion more likely to affect certainty? Construal is a type of understanding that determines how one deciphers and considers aspects of their world. The two ends of the spectrum of construal, high and low, are characteristic of either an abstract mindset or a concrete mindset. For example, if someone thinks using high construal, they handle and solve problems by thinking about the "why" of the question, delving deeper to consider and discover all the possibilities of a solution. A low construal thinker may ask "how" and focus more on the "here-and-now", or the mechanics of a problem rather than the big picture. These construal levels are often used as moderators, and measured during the pre-test of studies (Bardi and Goodwin, 2011), but this study manipulated construal in order to have more control over the data. Another factor that can affect how one interprets everyday life is consensus, which is defined as the type of social feedback one receives as compared to their already formed opinions. It is either characterized as positive consensus, which is feedback that agrees with one's previous attitudes, or negative consensus, which is in discord with previously held attitudes, thus invalidating them.

To start, past research indicates that consensus has a large effect on the stability of one's attitudes or values, and shows that social influence is increased the most when normative descriptors are relayed. For example, a person is more likely to increase their energy conservation habits when hearing that the majority of their neighbors support the idea rather than hearing general arguments in favor of that lifestyle (Nolan, Schultz, Cialdini, Goldstein, and Griskevicius, 2008). In our study, we used descriptive consensus data to represent social influence because we hypothesized that this would have the biggest impact on the results and the participants. Individuals have been shown to seek group similarity. They show a tendency to align themselves with the majority opinion when receiving high consensus feedback as well as show a tendency to change their answers to fit the majority group when they receive low consensus feedback that marginalizes their opinion (Clarkson, Tormala, Rucker and Dugan 2013). These new choices also lead to higher attitude certainty in their answers (Clarkson, Tormala, Rucker and Dugan 2013). In our study, we sought to manipulate the type of consensus between positive or negative—agreeing with their standpoint or disagreeing with it—to see if that could also influence certainty and change opinion.

As mentioned before, in most available research, construal is a measured variable and used as a type of demographic to determine a connection between concrete or abstract thinking and various decisions. How-

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ever, this study looks to manipulate construal instead. Exercising this unique practice will allow us more control of the research data, so that we may have a more equal number of conditions, and thus better compare high and low consensus to high and low construal. Construal, also known as abstract or concrete thinking, is characterized on the basis of how near or far one judges oneself from an issue. The distance from oneself and an issue can be defined as temporal, spatial, social, or hypothetical, and the hypothetical issue of moral judgments is what our study is looking at. By asking "why" versus "how" questions used to increase thinking, this study will be able to prime participants into a high or low construal category, allowing them to judge hypothetical, or future, moral statements via those previously stated mindsets (Liberman and Trope 2008). The use of construal as a priming tool will specifically act as catalysts to participants, a method to facilitate in either the adaptation or non-adaptation of their current beliefs and values (Bardi and Goodwin 2011).

This research ultimately looked at the effects on value change. While we know that some change in value is unconscious and the participant may be unaware of motivators altering these ideals (Schwartz 2006), it is also assumed that the adjustment in the personal importance of a value is what defines value change (Bardi and Goodwin 2011). This attitude stability, or lack thereof, is what this paper will refer to as certainty.

Our research team carefully selected moral statements that were controversial, covering topics such as the economy and global warming, but not overly personal. Following this criteria, the statements would cause most people to have an opinion but not feel so subjective that they affect construal, which thrives on hypothetical distance. We hypothesized that participants within the high construal condition would assess a wide range of meaning and alternatives for consensus, making them less likely to change their certainty following negative consensus information (Liberman and Trope 2008). It is also assumed participants under low construal, thinking in terms of details of the immediate situation (and with history of conformity) will be much more likely to change their certainty when faced with negative consensus data.

Our study primed participants with either high or low construal. Then they were presented with a series of moral statements and given the choice to agree or disagree with them and signify the certainty level of their responses to said statements. Feedback of either positive or negative consensus will be presented for some of the questions –the other questions acting as controls –before all the questions are rephrased and asked again along with certainty, to assess change.

We hypothesize that if a participant is manipulated to have a low level of construal and made to disagree or agree on several topics, that participant will be very likely to change their agreement after they are presented with data pushing them towards a negative consensus for those topics, demonstrating very low attitude stability and certainty. However, a participant manipulated to have a higher level of construal will be much less likely to alter their answers on topics after being presented with feedback pushing them towards a negative consensus, and feeling the need to belong to the majority group (Liberman 2008), meaning they will have high certainty. It is also expected that people presented with data placing them in an area of positive consensus will have very little change in certainty, no matter their construal level.

Methods

Participants

Subjects and data were collected via online measures of recruitment through email and social media. Qualtrics surveys were sent out and data was collected from 123 participants. The majority of participants in the sample were college age students at The Ohio State University, though the survey was open to anyone over the age of 18, so various non-OSU affiliated friends and family of the researchers were recruited as well. For any data or survey that was mostly completed (90% or more), researchers went through this data to electronically accept these responses as complete in order to analyze them further. 97 participants completed the study as a whole, so 26 sets of data were excluded. Participants were all volunteers. This study sought to disprove the null hypotheses that there was no relationship between construal level and consensus information. The research team prepared for three separate outcomes based on the four possible participant categories: 1) participants primed to have high construal and who received high consensus feedback would be the most certain in their answers and 2) participants primed to have low construal and who received low consensus feedback would be the least certain of their answers. We also believed that 3) participants primed for high construal and receiving low consensus feedback and 4) participants primed for low construal and receiving high consensus feedback would fall in the middle in terms of certainty and likelihood to change their answers.

Participants took a Qualtrics study involving a pre-test section that primed them for construal, and answered several statements (agree or disagree) as well as gauged their certainty on these answers. The statements were then re-worded and asked again. After the study was fully completed, results were analyzed in SPSS with the usage of a 2x2 ANOVA.

Design

This study consists of two independent variables: construal and consensus. Each has two levels—high and low. They are both manipulated between participants. There is one dependent variable, certainty, which is measured. Levels were combined in such a way that participants will be in one of four conditions: high construal with high consensus, high construal with low consensus, low construal with high consensus, and low construal with low consensus.

Procedure

First, participants were given a "pre-test" to prime them to either high or low construal. After this, they were randomly assigned to conditions. There, they were presented with a series of moral statements that asked the participant to either agree or disagree, and state the certainty of their answer on a scale from one to seven (one being least certain). After an answer was given, a new statement would appear, but feedback of either high or low consensus (depending on the block) was presented for three of the statements. All feedback was factual and non-deceptive, and was collected from several Internet polls, using the consensus gap, or the general opinion of the scientific community as compared to the opinion of the public. After all statements are asked, they will each be rephrased and asked again along with certainty. At the end, several demographic questions about age, gender, ethnicity, etc. were asked in order to determine possible other connections between certainty change and identifiers such as age or race. Finally, participants were thanked, debriefed and dismissed.

Measures

There are two independent variables—construal and consensus. Construal manipulation via question and answering was the first task. The questions request long-form written answers. Depending on what block the participants were randomly directed to, participants were asked to answer either several "Why?" questions to create high construal, or "How?" questions to create low construal. The questions asked "why" and "how" of the participant's answer multiple times in order to create in-depth thinking. These questions are designed to reduce or increase distance from the question, thereby manipulating each participant into thinking abstractly or concretely for the remainder of the study (Liberman and Trope 2008). For example, one "How?" question was "How would you lose weight?" After one answer was typed in free-form by the participant, they were asked "How?" again to clarify. The participant typed in another answer, and then was asked "How?" yet again. Participants had to reword, reanalyze and reassess their answers for a total of five different, comprehensive responses. One "Why?" question asked was, "The bus you are waiting for is running late. Why could this be happening?" Similar to the low construal question, participants in the high construal group were asked to elucidate their answer as they were asked "Why?" four more times in succession.

Consensus manipulation comes in the second part of the task. Participants chose whether they agreed or disagreed with seven different statements and rated their certainty of each of them. For three of the seven statements they were asked about, they were immediately presented with consensus feedback. Depending on their answer to the question (either agree or disagree) and their randomized level of consensus (either negative or positive), they were presented with data that corresponded to that condition. For example, one statement said, "'Buying American" has a positive impact on employment rates for factories in the United States. If a subject in the low consensus condition said they agreed with this statement, the very next screen would present their feedback, reading "11% of experts agree with you". If a subject in the high consensus condition agreed with such a statement, their feedback for the question would say something similar to "76% of people agree with you".

There is only one dependent variable—certainty. Certainty is measured on a Likert scale of one to seven, presented as a sliding scale that participants can alter to their choosing. The number one represents the least certain that a person can be of an answer, while seven is the highest and most certain. Higher scores indicate higher certainty and attitude stability. This was the measure assessed for change.

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Results

Results were analyzed by a 2x2 ANOVA due to the hypothesis that the study's two independent variables of construal and consensus, consisting of two levels each, would have a dependent effect on each other within the study as well as a measurable overall effect on certainty. Reliability measures were conducted on construal and certainty measures to confirm their consistency. The statements that were flipped and asked again were reverse coded.

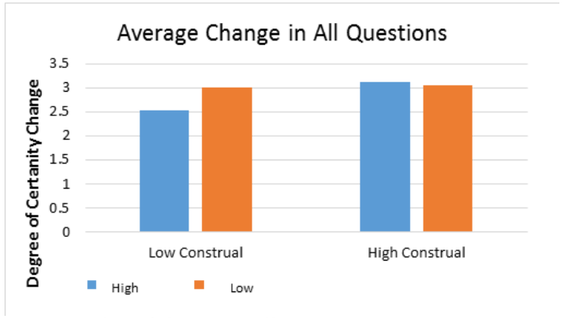

Fig 1. Number of changes in all questions. F(1, 93) = 5.656, p<.05

Significant Effects

It was found that the study results show a significant main effect of low construal with F(1, 93) = 5.656, p=0.019 (See Fig 1) and a simple main effect of consensus within that. Overall, we found a marginally significant main effect of construal F(1, 93)=3.37, p=.07. The effects of consensus were not significant (F<1.5). Also, there was a marginally significant interaction of construal and consensus together F (1, 93) = 2.509, p=0.117. Unexpectedly, we found that time also had a significant effect on the data when looking at its effects on certainty. Further analyses and a T test looking at the first three statement answers of the consensus portion asked versus the last four asked were performed. Certainty levels for each statement increased as the study continued and more questions were asked. For consensus, time had an F value of F(1, 95)=17.568, p<.01 and an F value of F(1, 95)=17.357, p<.01 for construal, signifying an interaction. See Fig 2 and Fig 3.

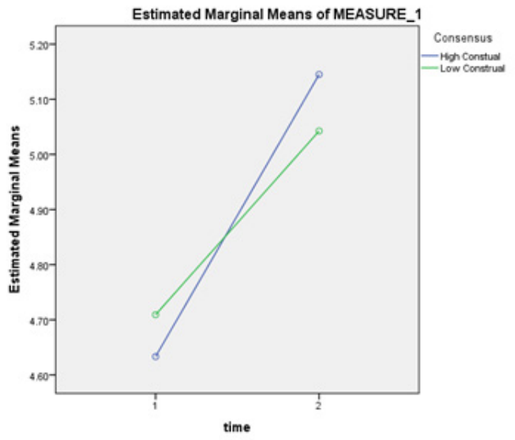

Fig 2.High and low construal trends over time for the first three questions asked vs the last four questions asked. Comparing time (X axis) and average certainty (Y axis). F(1, 95)=17.568, p<.01

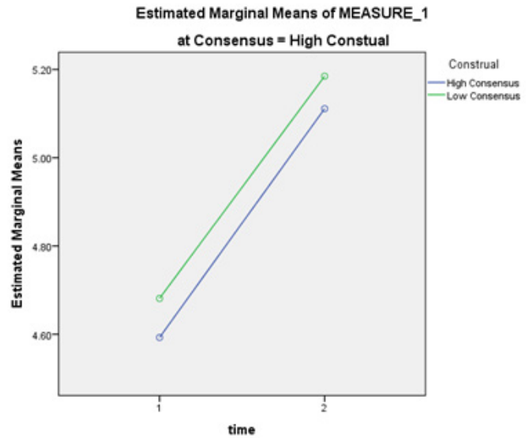

Fig 3. High and low consensus trends over time for the first three questions asked vs the last four asked. Comparing time (X axis) and average certainty (Y axis). F(1, 93)=17.357, p<.01

Average Change

Under the low construal condition, participants receiving negative consensus feedback changed their answers more than participants receiving positive consensus feedback. Higher consensus lead to fewer changes (M = 2.52, SD = 0.68) than negative consensus (M = 3.12, SD = 0.86). When compared to the high construal condition of positive consensus (M=3.00, SD=1.00) and negative consensus (M=3.04, SD=0.77), one can see that the individuals primed for high construal changed their answers more for the high consensus feedback and less for the low consensus feedback. This study also took into account people changing their answers from "agree" to "disagree" and the corresponding certainty to that issue via reliability measures.

Profile plots reveal several trends that mimic the hypotheses, and some that do not. Firstly, after looking at average certainty for questions that were manipulated to have high or low consensus feedback, a relationship between consensus and construal was identified, though it was not a statistically significant interaction (Fs<1). Specifically, participants in the high construal/high consensus condition were the overall most certain group and experienced the least amount of change in attitudes (M=4.68, SD=1.59). The group that was the least certain by a slight margin was the low construal/low consensus condition (M=4.56, SD=1.12). No other main effects or interactions were significant (Fs< 1). See Fig 4.

Fig 4. Average certainty after study was completed, posttest section.

Discussion

As stated before, several results of this study trended in the direction of the hypotheses. We found a significant main effect of both low construal and time, and a marginally significant interaction of construal and consensus was evident as well. This shows that within low construal, certainty increased with positive consensus feedback and decreased with negative consensus feedback, akin to our hypothesis. This also means that in our study, certainty levels increased over time.

Generally, results showed high construal made an individual participant more certain in their answers than low construal, and that high consensus made an individual participant more certain than low consensus (See Fig 4). This finding agrees with our hypotheses about consensus and construal.

There are several theories on why the analyses showed what it did. Firstly, the effect for high construal and positive consensus coincide with the earlier stated hypotheses that individuals manipulated to have higher construal will be less likely to change their answers, and agrees with background research stating individuals receiving positive consensus feedback are much more confident and certain in their answers (Liberman and Trope, 2009). High construal appeared to have no effect as participants changed their certainty around the same amount. Meanwhile, results for the low construal and negative consensus group are similar, in that low construal participants were hypothesized to be less certain and change their answers and/or certainty more, and supporting the theory that receiving negative consensus feedback makes one less certain in their decisions. Since participants seemed to grow more confident and certain in their answers as time went on and statements were repeated, it can be hypothesized that practice or repetition, rather than consensus has a big impact on decisions due to the allowance of time for confirmation and quick consideration of unlikely alternatives. In future studies, this team could seek to further explore this possible time-certainty link.

At the end of the study, a demographic analysis was performed. It revealed 79.4% of participants were age 18-29, 68% were female, and 70.1% were Caucasian. This sample is not very random or varied, so it is considered a limitation to the generalizability of the conclusions of this project, and a goal for an additional study would be to increase that variability. The study could be replicated in other settings, perhaps with a more varied age population than undergraduate college students, and more participants overall. In the future, having the order of statements randomized per each trial would also be recommended. Consensus feedback may have had a more salient effect if it were changed to say something more similar for both the high and low conditions, perhaps using "expert" responses for both sets of feedback rather than "people", to keep the measure consistent and increase the likelihood of a participant believing or accepting the feedback. Additionally, it would be wise to add manipulation checks for the construal condition to confirm the desired effect of our priming.

Most construal research has measured its levels as a dependent variable rather than independent (Fujita, Eyal, Chaiken, Trope, Liberman 2008), so this is another aspect to explore. Researchers were also limited by a basic statistical prowess and use of singular experimental methods, such as an online survey such as Qualtrics as opposed to additional means such as questionnaires or in-person surveys, for which proximity could have yielded a different effect. As a plus, there also seemed to be no failure of random assignment, since the amount of participants in each trial was about equal (50 people, +/-3).

We believe our findings about construal, consensus, and certainty would best be used in educational and public settings. For example, in (preferably) small classroom settings, knowing and understanding the construal levels of each student would work favorably in enhancing the classroom experience. By using priming techniques and modifying teaching styles accordingly, teachers can reach students in ways they never have before –on their most basic level of thinking. This new understanding could improve their confidence both in the classroom and in the real world (Liberman, Trope, and Wakslak, 2007). On a larger scale, these methods could also be used in public speaking or persuasive communication. We found consensus information has a large impact on people, so manipulating that knowledge combined with a familiarity of construal could be applied to winning followers and constituents in many areas, from life coaching to board room pitches to various political arenas. Besides public z ures asking or inferring "how" or "why" questions during or before speeches to prime for construal, it would also work to their advantage to give specific argumentative examples using consensus or allow listeners a brief amount of time to consider their responses or adjust their certainty. Speakers could use abstract terms when addressing a large audience or utilize concrete thinking for a small group. It is clear that these effects of construal and consensus on certainty can be applied in many areas, both locally and globally.

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