INVESTIGATING THE IMPACT OF GENERAL ACTION AND INACTION GOALS

ON ATTITUDE POLARIZATION

by

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DEDICATION

To my wife: my beloved and best friend. Thank you for your steadfast love, support, and encouragement that continually propelled me forward throughout this journey. I love you.

To my children: my purest joy and greatest accomplishments. Thank you for reminding me daily to keep life's demands in proper perspective and to curiously explore the unknown with joy and passion.

To my Creator, my Lord and Savior, with whom I know all things are possible.

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DISCLAIMER CLAUSE: The views expressed in this thesis are those of the author and do not reflect the official policy or position of the United States Air Force, Department of Defense, or the U.S. Government.

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ABSTRACT

Previous research shows that people can hold general goals for action or inaction. Further, action (vs. inaction) goals can result in less or greater attitude change in response to a persuasive message under different circumstances. To explain this opposite pattern of results, the current research explored the possibility that action (inaction) goals enhance (diminish) the default tendency of a given situation. Furthermore, research on attitude polarization demonstrates that despite exposure to equally strong yet opposing messages on a particular topic, individuals evaluate information consistent with their existing attitude as stronger (i.e. biased assimilation) and report more polarized attitudes as a result. Thus, for the present thesis, it was hypothesized that action (inaction) goals would enhance (diminish) this default tendency for biased information processing, leading to more (less) polarized attitudes compared to participants who receive no (control) goals. In this experiment, participants with non-neutral initial attitudes toward the impact of illegal immigration on the economy completed word fragments as part of an apparent verbal agility task. Via random assignment, this task actually primed either a general action, inaction, or no (control) goal. Next, participants viewed equally strong but opposing messages in a side-by-side format where one message supported and the other refuted the economic benefits of illegal immigration. Finally, participants responded to several measures to assess direct and perceived attitude polarization, as well as biased assimilation of the messages. The results replicated several findings in attitude polarization literature; however, goal primes yielded no effects, thus the hypotheses were unsupported. Several explanations of the results and possibilities for future research are discussed.

INTRODUCTION

In a given day, the typical American consumes an estimated 100,500 words of information across many mediums and topics (Bohn & Short, 2009). This information, often communicated in persuasive messages, ranges from consumer-based advertisements touting a particular clothing brand or automobile, to important socio-political issues such as abortion, gun control, and illegal immigration. Naturally, these messages can influence the attitude a person holds toward the topic; however, the extent and direction of influence depends on a combination of several factors including: the message (e.g., strength, direction, style), context (e.g., message modality, repetition), source (e.g., credibility, trustworthiness, attractiveness), and recipient (e.g., currently held goals, existing attitude direction, strength, and accessibility; see Albarracín & Vargas 2010; Briñol & Petty, 2012; and Petty & Wegener, 1998 for reviews). If attitude change occurs, two outcomes are possible: attitude polarization, whereby an existing attitude becomes more extreme in the same direction; or attitude depolarization (i.e., persuasion), whereby an existing attitude becomes less extreme by moving in the opposite direction of the initial attitude (Petty & Wegener, 1998; Miller, McHoskey, Bane & Dowd, 1993). In either case, factors pertaining to the individual, specifically their existing attitude and current goals, greatly influence the extent of attitude change by altering cognitive processing of the information contained in the message.

Central to the current thesis, recent research demonstrates that individuals can hold general goals for action or inaction, which alter how information is processed (see Albarracín, Helper, & Tannenbaum, 2011, for a brief review). For instance, action goals

increase information processing of a passage of text as measured by a reading comprehension test (see Experiment 4, Albarracín et al., 2008) but in a persuasion context, action goals result in less information processing of a passage of text (Albarracín & Handley, 2011) and less overall attitude change. It is possible to explain this with the idea that action goals will increase whatever the default tendency is within a given situation, whereas inaction goals decrease that tendency. Thus, in situations where individuals are likely to process information carefully (or not), action goals versus inaction goals should enhance this tendency and lead to greater (lesser) processing. The current research examines this possibility in the context of attitude change.

Albarracín and Handley (2011) demonstrated that action goals increase the activation of an existing attitude relevant to a forthcoming topic, whereas inaction goals decrease this activation. As a result, participants primed with action (inaction) goals process a counter-attitudinal message less (more), which results in less (more) attitude change (i.e., persuasion). Because attitudes function to guide actions and behaviors (see Ajzen & Fishbein, 2005 for a review), attitude change via persuasion is inconsistent with an action goal; rather, the action goal triggers the activation and use of the existing attitude, resulting in less attitude change.

However, the opportunity to strengthen an existing attitude is consistent with an action goal. That is, having a more polarized, stronger, and/or certain attitude should better facilitate future actions and behavior. Therefore, in other attitude-change situations in which attitude polarization is typical (i.e., the default tendency), these same goals may produce different effects on attitude change. That is, people might actually respond to

mixed information, and polarize more (less) when primed with action (inaction) goals. These opposing patterns of results where action goals sometimes lead to greater attitude change, while at other times lead to less attitude change, raises the possibility that general action and inaction goals simply enhance and diminish, respectively, the default tendency in a given situation.

The present research addresses this hypothesis by examining the impact of general action and inaction goals within the context of an attitude polarization paradigm. Research on attitude polarization demonstrates that despite exposure to equally strong yet opposing arguments on a particular topic, individuals evaluate information consistent with their existing attitude as stronger and report more polarized attitudes as a result (e.g., Lord, Ross, & Lepper, 1979; Miller et al., 1993; Taber & Lodge, 2006). For example, individuals against capital punishment reported even stronger attitudes against capital punishment (polarized) after receiving equally valid messages favoring and opposing capital punishment (Lord et al., 1979). Therefore, given this default tendency for biased information processing in this type of situation, and consistent with the above hypothesis, action (inaction) goals should enhance (diminish) this default tendency for biased information processing, leading to more (less) polarized attitudes compared to participants who receive control (no) goals. Importantly, although the current research examines the effects of action and inaction goals on the default tendency in an attitude change context, it should be noted that it is not limited to impacts on cognitive output but could theoretically impact motor output in much the same way (Albarracín et al., 2008), as will be addressed in the discussion section of this thesis.

General Action and Inaction Goals

Goals typically represent specific desired end states to achieve (e.g., set a personal record on an upcoming half-marathon race; earn an A on a term paper due at the end of the month) and organize behavior toward goal achievement (see Fishbach & Ferguson, 2007 for s review). However, research first presented by Albarracín et al. (2008) demonstrates that desired end states can also be general, such as goals for action (high cognitive and/or motor output) or inaction (no or less cognitive and/or motor output). According to Albarracín and colleagues (2008), because these goals for action or inaction are general, they can be satisfied via a multitude of tasks spanning the continuum of activity (e.g., running, thinking about a new concept or idea, doodling) and inactivity (e.g., sleeping, daydreaming, resting). As a result, their specific effects on cognitive and motor output depend on the activity choices available in a given situation. Indeed, Albarracín and colleagues (2008) demonstrated the effects of these goals across a variety of cognitive and motor tasks.

Effects on Motor Output

In one experiment from Albarracín et al. (2008), participants unknowingly primed with an action or inaction goal were presented with a choice between folding paper airplanes and doodling or laying their head down and resting for three minutes. Participants primed with an action goal chose to fold paper airplanes or doodle on a piece of paper more often—a task allowing for motor output—than to lay their head down and rest. Conversely, those participants who were primed with an inaction goal chose to lay

their head down and rest more often—a task allowing for less motor output—than to fold paper airplanes or doodle. These results demonstrate that the activation of action and inaction goals alters activity choice (i.e., motor output) such that participants choose tasks that are congruent with their currently held goal (Albarracín et al., 2008).

However, even in the absence of choice between active or inactive tasks, action and inaction goals exhibit effects on motor output. In two subsequent experiments, participants who were primed with action or inaction goals exhibited significant differences in two simple motor activities: eating grapes and spacebar pressing (Albarracín et al., 2008, Experiments 2 and 3). Specifically, participants primed with action goals ate significantly more grapes and pressed a spacebar more often to segment a video into meaningful behaviors compared to participants primed with inaction goals.

Effects on Cognitive Output

The cognitive impacts of general action and inaction goals mirror those from the previous three motor-output experiments. In two additional experiments, participants primed with action goals recalled more information from a previously read text (Albarracín et al., 2008, Experiment 4) and solved more SAT-type problems (Albarracín et al., 2008, Experiment 5) compared to participants who had been previously primed with inaction goals. In each of the above experiments, the results consistently supported the prediction that action goals increase motor or cognitive output, whereas inaction goals decreased output.

<u>Goals Not Concepts</u>

Two hallmarks of any goal are their influence on behavioral choices in the service of maximally satisfying a goal and the persistence of goal-related behavior until goal the goal is achieved. Therefore, Albarracín et al. (2008) conducted two additional experiments to demonstrate these general action and inaction goals were more than just concepts of activity or inactivity,

In their sixth experiment, Albarracín et al. (2008) primed participants with an action or inaction goal before presenting them with two choice options. In one option, they could perform an action-related task for 30 s followed by an inaction task for 3 min, whereas in the other option they could perform an inaction-related task for 30 s followed by an action task for 3 min. Although both options provided an opportunity for goal satisfaction, participants were significantly more likely to choose the short incongruent-goal task first followed by the longer goal-congruent task, suggesting they were seeking to maximize goal fulfillment.

With respect to goal satisfaction, a final experiment demonstrated that the satisfaction of a previously triggered action or inaction goal eliminated its impact on motor or cognitive output (Albarracín et al., 2008, Experiment 7). In this experiment, participants who had been primed with an action, inaction, or no goal were randomly assigned to a condition that did, or did not, allow for satisfaction of the goal, followed by a reading and thought-listing task. Participants afforded an opportunity to satisfy the previously primed goal on the initial task showed no effects of the goal in the thought-listing task. However, those participants not afforded this opportunity showed the effects

of the goals on the subsequent thought-listing task (i.e., action goals resulted in more thoughts; inaction goals resulted in less thoughts). Together, these final two experiments provide convincing evidence that these general action and inaction goals not only impact motor and cognitive output, they do so as goals rather than simply activated concepts.

Additional Empirical Support

Following Albarracín et al.'s (2008) initial evidence for general action and inaction goals, many researchers extended these findings by exploring cultural (Zell et al., 2013), regional (Noguchi, Handley, & Albarracín, 2011), and individual (McCulloch, Li, Hong, & Albarracín, 2012) differences in the conceptualization, pervasiveness, and relationship of these goals to a variety of behaviors and personality factors. Others explored the effects of general action and inaction goals in the context of exercise (Helper, Wang, & Albarracín, 2012), food intake (Albarracín, Wang, & Leeper, 2009), voting behavior (Noguchi, Handley, & Albarracín, 2011), impulsiveness (Helper & Albarracín, 2013a; Helper, Albarracín, McCulloch, &Noguchi, 2012), decision making (Albarracín & Hart, 2011; Laran, 2010), and performance on cognitive tasks (Silvestrini & Gendolla, 2013). However, most applicable to the present thesis on attitude polarization includes the research of Albarracín and Handley (2011), which explored the impact of general action and inaction goals on attitude change in response to persuasive communications.

Impact of General Action and Inaction Goals on Attitude Change

Because action (inaction) goals increase (decrease) cognitive output, they might also influence the extent to which individuals process persuasive information, and thus moderate attitude change—or an individual's evaluation of an object (Albarracín & Vargas 2010; Briñol & Petty, 2012). Albarracín and Handley (2011) explored the impact of action and inaction goals, finding that action goals increase the retrieval and activation of an existing attitude, whereas inaction goals decrease the retrieval and activation of an existing attitude. As a result, participants primed with an action (inaction) goal processed a counter-attitudinal message less (more) and reported less (more) attitude change.

Experiments 1 and 2 from Albarracín and Handley (2011) demonstrate the effect of goal primes on attitude retrieval and activation. In the first experiment, participants were initially informed about the topic of an upcoming message, followed by a task designed to unconsciously prime an action, inaction, or no (control) goal. Next, participants reported their attitude about that topic before actually receiving any information about it. Participants primed with an action goal reported their attitude significantly faster than participants in the no (control) and inaction goal conditions. Additionally, participants primed with an inaction goal reported their attitude significantly slower than participants in the no (control) condition. These results suggest that the unconsciously primed action (inaction) goal increased (decreased) cognitive activity, paralleling to the findings from Albarracín et al. (2008). However, this time, the goals facilitated (impeded) prior attitude retrieval and activation.

Experiment 2 showed that action and inaction goals only influenced the retrieval and activation of an attitude participants thought they would use in the near future. In this experiment, after the goal priming manipulation, all participants reported their attitude toward gun control and response times for attitude report were measured. However, prior to the goal priming manipulation, participants were either told that they would receive information about the topic of gun control (the forewarned condition) or euthanasia (the unforewarned condition). Albarracín and Handley replicated the pattern of results obtained in Experiment 1 in the forewarned condition; when participants anticipated encountering information on a particular topic, action goals enhanced the activation (reducing response times) of their attitude regarding that topic (presumably in preparation for receiving the information). However, response times for participants reporting their attitude toward the unforewarned topic did not differ across goal condition. This demonstrated a specific impact of the action and inaction primes on the attitudes of the forewarned topic only. That is, action (vs. inaction) goals do not result in haphazard activation of attitudes, but rather specific attitudes that will facilitate upcoming activities. Together, these results suggest that increased (decreased) activation of an existing attitude by general action (inaction) goals will result in less (more) attitude persuasion in response to a counter-attitudinal message. This is because attitudes that are more highly activated are more resistant to attitude change (Fazio, Ledbetter, & Towles-Schwen, 2000).

Indeed, Albarracín and Handley (2011) reported several more experiments investigating the effects of these goals on attitude change following exposure to counter-

attitudinal information. For example, in Experiment 4, participants with favorable attitudes toward gun control and euthanasia were told at the beginning of the experiment they would receive and respond to a message about euthanasia. However, after the priming manipulation, some participants received a strong anti-euthanasia message (forewarned condition) while others received a strong anti-gun control message (unforewarned condition) and after the messages participants reported their attitudes. Attitudes toward the messages for both groups yielded the expected pattern of results. In the unforewarned condition attitudes did not differ as a function of goal prime; however, in the forewarned condition, participants agreed with the anti-euthanasia message more (i.e. they were more persuaded by the message) when they had been primed with an inaction compared to action goal. Over 4 additional experiments, this pattern of results continually emerged; action goals resulted in less attitude change than inaction goals in response to persuasive messages, but only when the participants were forewarned about the topic of the upcoming message.

Considering the Default Tendency

The results from Albarracín and Handley (2011) are seemingly contrary to those of Albarracín et al. (2008). Experiment 4 of Albarracín et al. (2008) demonstrates that action (vs. inaction) goals increased cognitive activity via the processing of an evolutionary psychology text as measured by information recall. Yet, Experiments 3, 4, and 5 of Albarracín and Handley (2011) demonstrate that action goals decreased processing of information contained in persuasive messages due to the increased

activation of preexisting attitudes. Both provide strong evidence for the impact of general action and inaction goals on cognitive and motor output; however, these dissimilar results suggest the specific effects of these goals may depend on individuals' default cognitive or motor tendencies within a given situation. That is, knowledge of how a person would typically respond in a given situation may help predict how general action or inaction goals will specifically alter cognitive or motor output.

Consideration of the default situational tendency provides an explanation for the two opposing pattern of results and resolves the seemingly inconsistent findings from Albarracín and colleagues 2008 and 2011. For instance, when participants receive information to study (e.g., a chapter from a textbook on evolutionary psychology), their likely default tendency is to read and process the information as they were asked. Thus, action (inaction) goals should enhance (diminish) this default tendency, resulting in greater information processing and information recall on a subsequent test (as observed in Experiment 4, Albarracín et al., 2008). Similarly, as cited by Sollars (2010), Glassman and Albarracín (2006) found that the default tendency among participants forewarned about the topic of an upcoming persuasive message is to activate and use the relevant existing attitude (if one exists). Therefore, if individuals' default tendency is to activate an attitude (in a control condition), action goals may enhance this tendency, resulting in less processing of a subsequent persuasive message and less attitude change, whereas inaction goals (relative to a control condition) should diminish prior attitude activation and allow persuasion—as observed by Albarracín and Handley (2011).

Evidence for the Default Tendency

In Experiments 3-5 of Albarracín and Handley (2011), the persuasive-message topics (gun control, vegetarianism, and euthanasia) to which participants responded were well known. Participants likely held a fairly certain attitude toward the topic prior to receiving the persuasive message. Thus, priming of an action (inaction) goal increased (decreased) activation of their existing attitude toward the topic, resulting in less (more) attitude change. However, in light of the default tendency idea, it is conceivable that for situations in which a person holds an uncertain attitude, action (inaction) goals will actually increase (decrease) attitude change. In situations where individuals lack a relevant or certain attitude, the default tendency is to process information carefully in order to form or solidify their attitude so they can know how to respond or act (Sawicki et al., 2011). To clarify this point, recall that attitudes facilitate action (i.e., behavior; Ajzen & Fishbein, 2005). But if a person lacks a certain or relevant attitude, they are unsure how to act. If they further have an action goal, that goal will be difficult to satisfy unless the person knows how to act; that is, unless they have an attitude they are confident in using. Without such an attitude, it stands to reason they should form one so that they can act and satisfy the action goal, thereby making the person more susceptible to persuasive messages.

To test this idea, Owenby and Handley (2014) had participants report their initial attitude toward a purported new food product called Miniac. Next, via random assignment, initial attitude certainty was or was not manipulated. In the attitude uncertainty condition, participants listed up to 10 things they knew and 10 things that

they would like to know about Miniac. Compared to participants in the control condition who completed an unrelated filler task, the challenge for participants in the uncertainty condition to list things they knew combined with the ease of in listing what they would like to know was predicted to highlight initial attitude uncertainty (Schwarz et al., 1991). Next, participants were primed with an action, inaction, or no (control) goal and then read a message containing strongly worded arguments against Miniac before reporting their post-message attitude. Attitude change, calculated by subtracting post-message from pre-message attitudes, showed two patterns of results. Replicating Albarracín and Handley (2011), when attitude uncertainty was not made salient, action (inaction) goals resulted in less (more) attitude change following a persuasive message. Importantly however, when attitude uncertainty was manipulated, the pattern of results significantly reversed such that action (inaction) goals resulted in greater (less) attitude change. That is, when participants' uncertainty about their attitude was highlighted, participants based their attitudes on the message information to a greater extent if they held an action versus inaction goal. This experiment therefore supports the idea that action (inaction) goals enhance (diminish) individuals' default responses: action goals diminish persuasion when individuals have a pre-existing attitude (Albarracín & Handley, 2011), but increase persuasion when individuals have an uncertain attitude.

Further, research by Hart and Albarracín (2012) provides additional evidence for a default tendency hypothesis. Research consistently shows people biasedly select attitude-consistent information when given the choice (i.e., selective exposure bias; see Hart et al., 2009 for a review). Therefore, this default tendency should be enhanced

(diminished) by general action (inaction) goals. Indeed, three experiments by Hart and Albarracín demonstrated that action goals increased the overall number of selected topics and preference for congenial topics compared to participants primed with inaction goals.

Of note, however, Hart and Albarracín's (2012) methodology did not investigate attitude change (i.e., polarization or persuasion). In each of the reported experiments, participants only indicated a binary decision (i.e., selected from one of two choices) pertaining to the topics of extending or ending the contract of the manager of a company (Experiments 1 and 3) and supporting or opposing a ban of hate speech on college campuses (Experiment 2). Furthermore, participants selected information topics based on single sentence summaries that indicated the overall position of the topic but lacked detailed justification. Thus, it is unclear how action or inaction goals would impact information processing of the congenial (uncongenial) information or any resulting attitude polarization or persuasion.

There is empirical evidence consistent with this default tendency idea with important implications for attitude change that have yet to be investigated. Thus far, action goals seem to enhance the default tendency in persuasion context, leading to attitude activation and decreased persuasion when individuals have a pre-existing (and unquestioned) attitude, but increased persuasion when they have an uncertain attitude. But attitude change can also occur via polarization. The research from Hart and Albarracín's (2012) demonstrates that action goals enhance a default tendency to select attitude-consistent over inconsistent information. Further, polarization research generally demonstrates that individuals' attitudes become more polarized when they encounter

mixed information that favors and opposes their attitudes. Thus, as explored in more detail below, action goals may enhance attitude polarization for situations in which polarization is the default tendency. Such a possibility would add support to a default-tendency prediction for action/inaction goals.

Attitude Polarization

As previously stated, attitude polarization occurs when individuals' initial attitude becomes more extreme in the same direction of their initial evaluation (Miller et al. 1993; importantly, this definition does not pertain to initially neutral attitudes, cf. Kuhn & Lao, 1996). Years of research suggest that the underlying mechanism of attitude polarization stems from biased assimilation of presented information, at least when information is presented (e.g., Boyson & Vogel, 2007; Greitemeyer, 2014; Lord et al., 1979; Miller et al., 1993; Plous, 1991; but see Tesser, 1978). In a classic study of attitude polarization in this context, Lord et al. (1979) systematically manipulated fictitious research findings from two studies discussing the efficacy of capital punishment as a crime deterrent. Lord et al. constructed the findings from both studies so that both sides contained almost identical, but contradictory, information and results. Objectively, when presented with both sets of equally valid, yet opposing, sets of information, attitudes should remain unchanged or perhaps become more neutral. But, the psychology literature is replete with examples of humans' biased processing of information (see Baumeister, 2010 for a historical review of motivational and cognitively driven factors). Thus, Lord et al. (1979) hypothesized that evidence will be biasedly evaluated such that information opposing a

person's initial attitude will be dismissed and discounted, whereas evidence supporting the attitude will be evaluated as more convincing, even though it lacks any evidence-based advantage.

Consistent with these predictions, participants evaluated the congenial research (i.e., information consistent with their preexisting attitudes) as more convincing and better conducted than the uncongenial research. Most importantly, after reviewing both sets of information, participants reported their attitude toward capital punishment had polarized (i.e., became more extreme; Lord et al., 1979). Results from several other experiments (e.g., Boyson & Vogel, 2007; Munro et al., 2002; Plous, 1991; Pomerantz, Chaiken & Tordesillas, 1995) covering a variety of topics (e.g., biological explanations for homosexuality, presidential debate results, technology disasters; environmental preservation) replicate these findings. Thus, it seems, attitude polarization is the default tendency when individuals have a preexisting attitude and simultaneously encounter information that supports and opposes that attitude.

Direct vs. Perceived Measures

Yet, the results from Lord et al. (1979) are not without criticism, stemming largely from their method to assess attitude polarization. Originally, they intended to collect pre- and post-attitude measures to directly assess attitude polarization (t_2 attitude – t_1 attitude); however, most participants indicated extreme attitudes during the initial phase of attitude measurement. As a result, Lord et al. (1979) were forced to rely on a self-report (i.e. perceived) measure of attitude polarization for their dependent variable. Obviously, *perceived* attitude change is related to, but not synonymous with, actual

attitude change, leading some researchers to question the generalizability of these findings as evidence of actual attitude polarization (e.g., Kuhn & Lao, 1996; Miller et al. 1993).

To address this often overlooked limitation, Miller et al. (1993) set out to conceptually replicate the results from Lord et al. (1979) while also including a direct measure of attitude polarization. Though they replicated findings for perceived attitude polarization and the underlying mechanism of biased assimilation using the same topic of capital punishment, they failed to find attitude polarization via a direct assessment. In fact, participants with initially extreme attitudes actually showed attitude depolarization. Furthermore, in their third experiment, Miller et al. (1993) failed to observe perceived attitude polarization when using the topic of affirmative action, but still observed biased assimilation. More recently, Greitemeyer (2014) examined biased assimilation and attitude polarization under the topic of whether or not violent video games increase violence. Like Miller et al. (1993), he found no evidence of attitude polarization via direct measure of attitude change, but did find evidence for perceived attitude polarization. Thus, much research suggests that individuals often perceive their attitudes have polarized even though their attitudes show no direct change following information relative to their initial attitude. One might offer, then, that perceived attitude change is the default response in these situations.

The Role of Attitude Extremity

Notably, compared to participants with more moderate initial attitudes, those with extreme initial attitudes self-report (perceive) attitude polarization more so (Miller et al.,

1993; Pomerantz, et al., 1995; Taber & Lodge, 2006). Yet, although these participants self-report attitude polarization, their direct measures of attitude change often indicate no change or even attitude depolarization (i.e., persuasion; see Kunda & Lau, 1996; Greitemeyer, 2014; Miller et al., 1993). Obviously, if an initially measured attitude is already extreme (e.g., an "8" or "9" on a 9-point scale), a direct measure of attitude change at time 2 will probably not show any apparent differences. Rather, time 2 attitude reports are likely to regress toward the mean and depolarize, an explanation proposed by Miller et al., (1993), Taber and Lodge (2006), and Greitmeyer (2014). Several attempts to address this issue returned mixed results. For example, some have used descriptive labels on the extreme ends of the scales that incorporate extremity and certainty into the measure to minimize the use of the extreme ends during initial attitude assessment (see Kuhn & Lao, 1996). Others used longer, 100-point, scales (Miller et al., 1993) to allow more room for attitudes to move from initial to post measurement. Neither of these methodological changes resulted in directly measured attitude polarization. However, more recently, Albarracín, Wallace, Hart, and Brown (2012) as well as Taber and Lodge (2006) obtained directly measured attitude polarization. In both cases, the authors utilized a multiple item approach to assess time 1 and time 2 attitudes to counteract ceiling effects.

Note that the default tendency is for perceived attitude polarization via biased assimilation of mixed information (although direct polarization can sometimes happen). Thus, action goals should enhance polarization as measured by perceived measures and perhaps direct measures. Given the weakness of direct measures, the present research

tested this hypothesis with methods to create more sensitive direct measures, as elaborated in the next section.

Considerations for the Present Research

To address the inconsistent evidence for a direct (time 1 vis a vis time 2) measure of attitude polarization due to initial attitude ceiling effects, the present research employed two methodological considerations to initial attitude assessment. First, initial evaluation of the target attitude object always followed evaluation of two unrelated items. Research shows that judgments are relative in so far as they are based on the context in which the judgment is made (i.e., one misdeed is labeled as more [less] extreme in the context of other milder [more serious] misdeeds; Parducci, 1968). To demonstrate this point, in one experiment Parducci gave participants 1 of 2 possible lists of actions to rate on a scale from 1 (*Not Particularly Evil*) to 5 (*Extremely Evil*). Six statements on both lists were the same (e.g., "Pocketing the tip which the previous customer left for the waitress"), but the remaining items 12 were either generally mild (e.g., "Lying about your whereabouts to protect a friends reputation") or more serious (e.g., "Testifying falsely against someone for pay") actions. Results showed that participants used the surrounding items to help inform their judgments, and average scores for the 6 common statements differed based on which list of actions participants evaluated first. Participants who received the milder list of items rated the 6 common items as more evil than participants who received the more serious list of items. Therefore, providing the same positive and negative objects for participants to evaluate ahead of the target attitude object should provide a consistent context for the evaluation of the target attitude object and help to

reduce the number of initial attitude ratings of the target attitude object in the extreme ends of the scale.

Second, similar to Albarracín et al. (2012) and Taber and Lodge (2006) who successfully found attitude polarization using a direct measurement method, this study includes two attitude measures at each time point, which are averaged to create an attitude score. Given that most studies (i.e. Lord et al., 1979; Miller et al., 1993; Greitemeyer, 2014; Kuhn & Lao, 1996) used single-item attitude measures, a 2-item measure may eliminate scores from being maxed out on the end of the scales during initial measurement.

In summary, these methodological considerations for the current research address a consistent and important limitation of previous attitude-polarization research. If successful, the present experiment will not only demonstrate attitude polarization, it will more importantly provide the conditions necessary to assess the effects of action and inaction goals on perceived *and* direct measures of attitude polarization.

<u>Experiment Overview and Hypotheses</u>

Participants reporting non-neutral initial attitudes toward the impact of illegal immigration on the economy completed word fragments as part of an apparent verbal agility task. Via random assignment, this task actually primed either a general action, inaction, or no (control) goal (see Appendix A). Afterwards, participants were simultaneously presented with two short excerpts from actual recently published reports, one supporting and the other refuting economic benefits of illegal immigration (see

Appendix B). After reading these excerpts, participants completed direct and perceived

measures of attitude change to assess polarization, as well as measures of persuasiveness,

thought, and familiarity for both arguments. Argument order (for-against vs. against-for)

during message presentation, as well as direct and perceived measures of attitude change,

was counterbalanced across conditions. Although there were several factors in this

experiment (mostly as a function of counterbalancing and randomizing procedures), goal

condition served as the factor of *theoretical* interest and is focal for all experiment

hypotheses.

Hypothesis 1A: Relative to the control (no) goal condition, participants in the action

(inaction) goal condition will form more (less) polarized attitudes as measured by self-

reported (perceived) attitude change.

Hypothesis 1B: Relative to the control (no) goal condition, participants in the action

(inaction) goal condition will form more (less) polarized attitudes as measured by actual

(time 1, time 2) attitude change.

Hypothesis 1C: Relative to the control (no) goal condition, participants in the action

(inaction) goal condition will report more (less) biased assimilation of the message that

is congenial with their initially reported attitude direction.

Participants often report perceived attitude polarization in response to mixed

information. Thus, the perceive measure of attitude polarization provides the most

promising means to assess the effect of goal primes on attitude polarization. As

previously discussed, directly assessed (time 1, time 2) attitude polarization occurs

infrequently. However, if the earlier discussed methodological changes correct previous

problems with ceiling effects for direct attitude-polarization measures, the goal primes should produce the same pattern of results for this measure of attitude polarization as the perceived measure.

By default, participants should biasedly assimilate the presented messages (Lord et al., 1979; Miller et al., 1993; Taber & Lodge, 2006), preferring messages consistent with their attitude over messages inconsistent with their attitude. Given evidence from Owenby and Handley (2014) that action and inaction goals exert their effects via the default cognitive tendency, action (inaction) goals should therefore enhance (diminish) biased assimilation of the information.

Hypothesis 2: Biased assimilation of the two opposing arguments, whereby participants evaluate the congenial argument as more persuasive than the uncongenial argument, will mediate the relationship between goal prime and attitude polarization.

Pretesting revealed that the messages were equally compelling, convincing, strong, and persuasive. Additionally, message length is almost exactly the same (118 vs. 120 words). However, when comparing the information, participants should process the information in a biased manner (Lord et al., 1979; Miller et al., 1993). Furthermore, presentation of the information simultaneously in side-by-side fashion should encourage comparison of the arguments and enhance the biased assimilation effect (see Albarracín et al., 2012). Finally, although attitude-polarization researchers often implicate biased assimilation as the underlying cause of attitude polarization, this relationship is frequently only supported by correlational analyses which suggest, but never explicitly tests, the mediational relationship between biased assimilation and attitude polarization (e.g., Lord

et al., 1979; Miller et al., 1993; but see Taber & Lodge, 2006, who utilized a regression analysis). Mediation analysis can provide better evidence of this relationship (see Greitemeyer, 2014). Furthermore, in the context of the current experiment, this analysis provides strong evidence for the default tendency explanation by showing that action (inaction) goals exert their effects on attitude polarization by way of enhancing (diminishing) the default cognitive tendency of biased information assimilation.

Alternative Hypothesis 1: Relative to the control (no) goal condition, participants in the inaction (action) goal condition will form more (less) polarized attitudes.

The design of the current experiment allows for an alternate pattern of attitude polarization to emerge (see Platt, 1964), consistent with results found in Albarracín and Handley (2011). Specifically, it is conceivable that action (inaction) goals increase (decrease) the activation of an existing attitude and reduce (increase) the processing of presented information, irrespective of whether the information is congenial or uncongenial with the initially held attitude. Should this effect emerge, biased assimilation will likely be greater for participants with inaction goals. As predicted by Hypothesis 2 above, biased assimilation should still mediate the relationship between goal prime and attitude polarization.

METHOD

Participants and Design

Five-hundred forty Amazon Mechanical Turk (AMT) workers from the United

States participated in this experiment in exchange for monetary compensation (this

sample does not include 79 participants who did not complete the survey [22]; whose IP

addresses indicated they were not located in the United States [8]; who attempted to

complete the survey a second time [15]; or who missed an attention check in part 1 of the

survey [34]). In an initial screening survey, these 540 participants reported their attitudes

toward the impact of illegal immigration on the economy as well as two other unrelated

topics. Of those, 421 participants reported a non-neutral attitude toward the impact of

illegal immigration on the economy and were randomly assigned to an action, inaction, or

no (control) goal condition in the second part of the experiment. Initial attitude direction

(favorable or unfavorable) served as a quasi-independent variable. Message display order

(for first vs. against first), and attitude change measure order (direct first vs. self-report

first) were counterbalanced with goal prime condition and examined for interactions with

goal condition. Therefore, the full design was a 2 (Initial Attitude Direction) x 3 (Goal

Prime) x 2 (Message-Display Order) x 2 (Attitude-Measure Order) between-participants

design.

Procedure

Participants were recruited through Amazon's Mechanical Turk (AMT) website

(www.mturk.com). AMT is a worldwide crowdsourcing labor market that affords

researchers relatively easy access to a large and demographically diverse population who provides reliable data (Buhrmester, Kwang, & Gosling, 2011; Paolacci & Chandler, 2014). However, researchers must understand and address methodological challenges not found in traditional participant pools, such as lack of environmental control and ensuring sample independence (Chandler, Mueller, & Paolacci, 2014; Paolacci, Chandler, & Ipeirotis, 2010).

Participants could only see the Human Intelligence Task (HIT) and access the experiment if they were from the United States, held a 97% HIT approval rating with at least 1000 completed HITs, and had not participated in any previous surveys that were used to pretest the attitudinal topics and materials used in the current experiment. The HIT was advertised as a "2 part academic research study about differences in information processing" and was posted from September 1-5, 2014. Participants were informed that their answers from the first part of the experiment would be scored and used to determine qualification for the second part of the experiment. Importantly, participants were never informed of the exact criteria used to determine qualification for part 2 of the experiment in order to ensure their responses remained genuine and to ensure no future participants were aware of the criteria a priori. Compensation was set to $0.40 for completing part 1 and an additional $1.80 for completing part 2. Participants accepting the HIT in AMT clicked on a link to the experiment that used Qualtrics Research Suite software (Qualtrics, 2014).

After providing consent for part 1, participants completed several demographic questions as well as attitude, knowledge, personal relevance, and attitude-commitment

measures for three topics (see measurement details below): caffeine consumption, U.S. drone strikes abroad, and the impact of illegal immigration on the economy. Participants with a neutral attitude toward the impact of illegal immigration on the economy were informed they did not qualify for the second part of the experiment, debriefed, thanked, and provided with a survey completion code to enter on AMT in order to receive compensation ($ 0.40) for their time.

Those participants reporting non-neutral attitudes toward the impact of illegal immigration on the economy advanced to part 2 of the experiment. After providing further consent for this second part, participants completed the Dispositional Attitudes Measure (DAM; Helper & Albarracín, 2013b) and Revised Behavioral Inhibition System/Behavioral Approach System (BIS/BAS; Carver & White, 1994; Demianczyk, Lenkins, Henson & Conner, 2014) measure for exploratory purposes and to place temporal distance between the initial attitude reports provided during part 1 and the goal prime manipulation and argument evaluation in part 2. Following these measures, participants received instructions indicating the topic of interest for the study, followed by an alleged verbal agility problem-solving task actually designed to prime either a general action, inaction, or no (control) goal. Next, participants were simultaneously presented with messages in favor of and opposed to the impact of illegal immigration on the economy. Following message presentation, participants responded to the main attitude and message assimilation dependent measures. Several exploratory measures (described below) were also collected but are not reported in the current results. Finally, participants completed a funneled debriefing to probe for suspicion and demand

characteristics, and were then fully debriefed, thanked, and provided with a survey completion code to enter on AMT in order to receive compensation ($2.20) for their time across both parts of the experiment.

Attention Checks

Five attention-check questions were inserted throughout the experiment. These questions required that participants select a specific option from the provided scale (e.g., *rate this question a two*; *select very true for me to show you are paying attention*). This common practice provides an objective means to evaluate worker quality and catch scammers who, manually or via computer program, randomly click survey answers to earn money on AMT. Thirty-four participants missed one of the two attention check questions in part 1. These participants were not allowed to complete the experiment and their data were not included in any analyses or as part of the original sample reported above. Also, data from any participant who missed two of the three attention checks contained in part 2 were not included in the main analysis; only their answers for part 1 were analyzed.

Demographics

AMT workers, though a diverse group, might not represent the general population (Paolacci & Chandler, 2014). Therefore, participants reported their gender, age, race, education, income range, state of residence, political views (from 1 = *Very Conservative* to 9 = *Very Liberal)*, primary source of news information, and how long they have had an

AMT account to help characterize the sample in the context of the general U.S.

population.

Independent Variables

Initial Attitudes

For each of 3 topics, participants responded to the stem "[the topic] is" on two 9-point scales anchored from 1 (*negative, unfavorable*) to 9 (*positive, favorable*) in part 1 of the experiment. The focal topic for the current experiment was "The impact of illegal immigration on the economy," as pretests on AMT revealed that reported attitudes toward this topic were evenly distributed along the full length of the scale. For the immigration topic, participants' responses for these two measures were averaged by Qualtrics while participants took the survey to determine whether or not they held a neutral (5) or non-neutral attitude (not 5). Post-analysis of these two questions revealed excellent internal reliability (Cronbach's $\alpha = .961$). Only participants holding a non-neutral attitude were advanced to part 2 of the experiment. Initial attitude direction (scores above or below 5) was treated as a quasi-independent variable. The addition of two other attitude objects, "caffeine consumption" and "U.S. drone strikes abroad," served two important functions. First, they helped disguise the true topic of interest and method for selecting participants for part 2 of the experiment. Second, these topics always preceded the illegal immigration focal topic, thus providing a consistent context from which to evaluate the target topic using the provided scales (Parducci, 1968).

Though not analyzed in the context of the current results, participants also responded to one question to measure the personal relevance of each topic (To you, how relevant is the topic of _____?), one question to measure their knowledge of each topic (How knowledgeable are you about the issues surrounding the topic of _____?) with scales anchored from 1 (*not at all*) to 9 (*extremely*), and three questions to measure attitude commitment for each topic (How strongly do you hold your views on this topic?; How important are your views on this topic to you?; How often have you expressed your views on this topic to friends or family?) using a scales from 1 (*not at all*) to 9 (*very*)—adapted from Abelson (1988).

<u>Goal Primes</u>

During the second part of the experiment, participants engaged in a "verbal agility task" actually designed to prime either a general action, inaction, or neither (control) goal (see Appendix A). In this task, participants completed 24 word fragments, each missing one or two letters. For example, if participants saw '_OMAT_' they would type 'TOMATO' in the box provided. Depending on random assignment, 10 of the 24 word fragments were related to the concept of action (e.g., move, engage, go), inaction (e.g., halt, pause, stop), or neither (e.g., yard, candle, doctor) to prime the corresponding goal. The remaining 14 filler words were the same across all conditions and the word fragments appeared in random order for all participants. Previous research demonstrates these primes effectively activate action and inaction goals, independent of affect (Albarracín et al., 2008; Albarracín & Handley, 2011; Hart & Albarracin, 2012). Additionally, prior research commonly uses only eight (rather than ten) primes (see

Albarracín et al., 2008; Albarracín & Handley, 2011). Therefore, only participants completing eight or more word primes correctly ($\geq$ 80% accuracy) were retained for analysis.

Illegal Immigration Messages

Following the goal primes, participants were simultaneously presented with messages supporting and refuting the economic benefits of illegal immigration (adapted from www.procon.org; see Appendix B). Both arguments were clearly labeled and the presentation order of the messages from left to right on the screen (for—against vs. against—for) was counterbalanced across conditions. Moreover, these messages were almost identical in length (118 vs. 120 words) and pretesting verified they were perceived as equally persuasive. In the pretest, participants were randomly assigned to view and evaluate one of four possible arguments on the basis of how strong, compelling, convincing, and persuasive they thought it was. These four measures showed excellent internal reliability (Cronbach's α = .954) and were averaged to form a single measure of persuasiveness. Results from a planned contrast revealed no difference between the two messages selected for the main experiment (F[118] = -0.427, p = 0.670, M_{For} = 5.77, $M_{Against}$ = 5.98).

<div align="center">Primary Dependent Measures</div>

After reading the illegal-immigration messages, participants responded to 3 measures assessing attitude change (i.e., polarization). Prior to responding to these questions, participants were told: "Your attitude may or may not have changed since the

beginning of the survey, and either way is fine. Please indicate your attitude toward the impact of illegal immigration on the economy using the scales provided below" (Helper, 2014). Two measures *directly* assessed attitudes whereas the other assessed *perceived* attitude change. Question order (direct first vs. perceived first) was counterbalanced across conditions and the questions were shown on separate pages. Following this set of questions, participants evaluated each essay with respect to persuasiveness, and the order (for first vs. against first) in which participants reported these evaluations was randomized.

Theoretically, the order in which the perceived and direct measures of attitude change occur could impact the results depending on the dependent variable of interest. Specifically, participants might adjust their response to the second question(s) based on their response to the first question(s). In that case, the truest form of the attitude change variables (perceived or direct) will be captured for whichever question appeared first to the participant. Therefore, should a main effect or interaction involving measure order manifests, it was determined a priori that whichever attitude measure appeared first (direct vs. perceived) would serve as the dependent variable of primary interest (the purer measure of attitude polarization). That is, I would conduct separate analyses investigating the effects of the independent variables on whichever attitude-measure type was measured first, essentially cutting the sample size in half for each dependent variable. Even more specifically, if examining perceived attitude change, only participants who saw that question first will be included in the analysis. Alternatively, if examining direct

attitude change, only participants who saw these questions first will be included in the analysis.

Perceived Attitude Change

To assess how much participants *perceived* that their attitude changed during the experiment, they were asked the following (adapted from Lord et al., 1979): "How would you compare your current attitude toward the impact of illegal immigration on the economy with the attitude you had at the very start of this experiment?" They provided their responses on a 17-point scale (*-8 = much more against* to 8 = *much more in favor*). Responses were recoded with respect to initially reported attitudes such that a positive score would indicate perceived polarization, and negative scores would indicate perceived depolarization.

Actual Attitude Change

Similar to the initial attitude measures collected during part 1, participants reported their post-message attitudes using the stem: "The impact of illegal immigration on the economy is:" on two 9-point scales with anchors from 1 *(Bad, Undesirable)* to 9 (*Good, Desirable*). Responses to these two questions were averaged to create a post-message attitude score (Cronbach's $\alpha = .984$). Importantly, the anchors used for the time 2 direct attitude measure differed from those used in part 1 (*Negative—Positive*; *Unfavorable—Favorable*) so as not to encourage or discourage response consistency (Albarracín et al., 2012). However, this is not problematic given these scale anchors are commonly used in attitudes research and often *highly* correlate with one another (e.g.,

Handley & Runion, 2011). Furthermore, attitude polarization scores were calculated

such that if participant's initial attitude was less than 5, their time-2 attitude-score was

subtracted from their time-1 attitude-score; however, if their initial attitude was greater

than 5, their time-1 attitude-score was subtracted from their time-2 attitude-score. This

approach resulted in positive scores when attitude polarization occurred and negative

scores when attitude depolarization (i.e., persuasion) occurred.

Biased Assimilation

Next, participants responded to 4 questions assessing their evaluation of each of

the essays they read. The "Randomizer" function on Qualtrics determined which message

participants would evaluate first; this was not strictly counterbalanced with the other

conditions. The first question, consistent with measures used in Lord et al. (1979), Miller

et al. (1993), and Boysen and Vogel (2007), asked: "How persuasive was the essay that

was FOR (AGAINST) the economic benefits of illegal immigration?" and used a 17-

point scale (-8 = *extremely unpersuasive* to 8 *extremely persuasive*). The remaining three

questions asked participants to evaluate each essay on how *strong, compelling,* and

convincing they were using a 9-point scale (1= *not at all* to 9 = *very*) and the stem: "How

_____ was the essay that argued FOR (AGAINST) the Economic Benefits of Illegal

Immigration?" Responses to these questions for both messages were z-transformed and

then combined in order to create single evaluation score for each (Cronbach's α_{For} =

0.965, Cronbach's $\alpha_{Against}$ = 0.964).

Biased assimilation occurs when arguments congenial to an initial attitude are

evaluated more favorably. Given that, if initial attitudes were negative, the biased

assimilation score was calculated by subtracting the "For" essay score from the "Against" essay score. Conversely, if initial attitudes were positive, the biased assimilation score was calculated by subtracting the "Against" essay score from the "For" essay score. As a result, positive scores indicate biased assimilation of the messages, whereas negative scores indicate the message opposing the initial attitude was viewed as more favorable. Scores at or close to zero indicate equal evaluations of the messages.

<u>Funneled Debriefing</u>

As previously mentioned, AMT workers present a unique challenge to ensure sample independence and naiveté to the true purpose of a study or manipulations. AMT workers complete significantly more surveys and experiments than the typical university student in psychology participant pools, increasing the likelihood that they have been exposed to a particular manipulation more than once (Chandler et al., 2014). A funneled debriefing as outlined in Wilson, Aronson, and Carlsmith (2010) was used to address any issues of sample independence and naiveté. Eight questions assessed any knowledge of the true purpose of the study, relationship between tasks, true purpose of the verbal agility task, and whether or not participants noticed any theme to the words in the verbal agility task (e.g., action- or inaction-related words). Examination of responses revealed 3 participants who indicated knowledge that the purpose of the study was to assess biased processing of messages and indicated some knowledge as to the true purpose of the goal prime task (i.e., recognized a theme, stated purpose of word completion task was to

induce a mindset, etc.). However, exclusion of these participants from the dataset yielded no changes in the pattern of results; thus, their data were retained for analysis.

<center>Non-Reported Exploratory Measures</center>

In addition to the above measures, participants also completed a thought-listing task, which captured thoughts participants had while reading the essays and asked participants to rate each thought on positivity and confidence (Petty & Cacioppo, 1986). Participants also completed a self-report of which message they read first (independent of presentation order), argument familiarity, and the extent to with participants thought about each message. As a measure of behavioral intent, participants also responded to a multiple choice question indicating if they wanted additional materials on the topic of illegal immigration at the conclusion of the study (none were actually provided). Finally, participants also completed four individual-difference measures: DAM (Helper & Albarracín, 2013b), Combined Need for Cognition/Need to Evaluate Scale (Sherrard & Czaja, 1999; Cacioppo, Petty, & Kao, 1984; Jarvis & Petty, 1996), Defensive Confidence (Albarracín & Mitchell, 2004), and the Revised BIS/BAS (Demianczyk, et al., 2014; Carver & White, 1994). Results do not include data from any of the above exploratory measures and therefore, are not discussed further.

RESULTS

Demographic Data

Demographic data are summarized below (see Table 1). Briefly, sample was

54.4% male, mostly white/Caucasian (80.4%), with ages ranging from 18 to 73 years old

($M = 35.27$, $SD = 11.76$). Additionally, most (38%) had a four-year degree, 28.7% made

less than $20,000 per year, and on average were slightly liberal in their political views (M

$= 6.06$, $SD = 2.14$). Finally, participants from 47 states took part in the experiment with

California, Florida, and New York generating the most participants. As a whole, the

sample is more diverse than typically found in university participant pools.

Table 1. Demographic Data Summary

	Entire Sample N=540	Part 1 N=119	Part 2 N=421
Gender n (%)			
Female	246 (45.6)	60 (50.4)	186 (44.2)
Male	294 (54.4)	59 (49.6)	235 (55.8)
Age in years M (SD)	35.27 (11.76)	34.06 (11.68)	35.62 (11.77)
Race n (%)			
White/Caucasian	434 (80.4)	94 (79)	340 (80.8)
African American	34 (6.3)	7 (5.9)	27 (6.4)
Hispanic	20 (3.7)	5 (4.2)	15 (3.6)
Asian	37 (6.9)	10 (8.4)	27 (6.4)
Other	15 (2.8)	3 (2.5)	12 (2.9)
Education Level n (%)			
< High School	6 (1.1)	0 (0)	6 (1.4)
High School/GED	64 (11.9)	15 (12.6)	49 (11.6)
Some College	165 (30.6)	40 (33.6)	125 (29.7)
2-yr College Degree	44 (8.1)	9 (7.6)	35 (8.3)
4-yr College Degree	205 (38.0)	39 (32.8)	166 (39.4)
$\geq$ Master's Degree	56 (10.4)	16 (13.4)	40 (9.5)

Demographic Data Summary (Continued)

	Entire Sample N=540	Part 1 N=119	Part 2 N=421
Annual Income *n* (%)			
< $20K	155 (28.7)	43 (36.1)	112 (26.6)
$20K-$29,999	96 (17.8)	20 (16.8)	76 (18.1)
$30K-$39,999	88 (16.3)	15 (12.6)	73 (17.3)
$40K-$49,999	71 (13.1)	29 (16)	52 (12.4)
$50K-$59,999	52 (9.6)	10 (8.4)	42 (10)
$60K-$69,999	29 (5.4)	2 (1.7)	27 (6.4)
≥ $70K	49 (9.1)	10 (8.4)	39 (9.3)
AMT Account Age			
< 6 Months	137 (25.4)	27 (22.7)	110 (26.1)
6-12 Months	117 (21.7)	25 (21)	92 (21.9)
1-2 Years	184 (34.1)	47 (39.5)	137 (32.5)
3-4 Years	89 (16.5)	18 (15.1)	71 (16.9)
≥ 5 Years	13 (2.4)	2 (1.7)	11 (2.6)
Political Views *M* (*SD*)	6.06 (2.14)	6.78 (1.74)	5.85 (2.20)
News Source Mode (*n*)	Internet (425)	Internet (102)	Internet (323)
States of Residence Top 3 (*n*)	California (60) Florida (49) New York (31)	California (12) New York, Florida, Georgia (9)	California (48) Florida (40) Pennsylvania (24)

Demographic Differences Assessment

Chi-square tests and independent-sample t-tests (for age and political view) were conducted for the 8 demographic questions in order to verify that participants who completed part 1 only (i.e., neutral illegal-immigration attitudes) and those who completed part 2 did not differ. No difference between the groups were found for gender, race, education level, annual income range, age of AMT account, primary news source, or age (all $ps > 0.10$). However, participants who only completed part 1 were more liberal in their political views ($M = 6.78$, $SD = 1.74$) compared to participants who completed part 2 ($M = 5.85$, $SD = 2.2$), $t(235.6) = 4.837$, $p < .001$.

Next, demographic data of participants completing part 2 were analyzed based on the initial attitude direction (favorable vs. unfavorable) quasi-independent variable determined during part 1 of the experiment. No differences were found for gender, annual income range, age of AMT account, or news source (all ps > .095). However, significant difference in race was found: χ^2 (4, N=421) = 13.945, p < .007. An examination of expected versus actual counts revealed significantly more Hispanics than expected by chance held initially favorable attitudes toward the impact of illegal immigration on the economy (z = 2.4, p < .05). Additionally, a significant difference in education was found, χ^2 (5, N=421) = 13.491, p < .012, such that in the favorable condition, there were more participants than expected by chance with a master's degree or higher (z = 2.1, p < .05). Finally, participants expressing initially unfavorable attitudes toward the impact of illegal immigration on the economy were on average, older, (t[243.9] = 3.791, p < .001; M_{age} = 36.84, SD = 12.10] and less liberal, (t[270.4] = -9.90, p < .001; $M_{political}$ = 5.32, SD = 2.15], than participants expressing initially favorable attitudes (M_{age} = 32.39, SD = 10.22; $M_{political}$ = 7.26, SD = 1.642).

Final Sample Determination

Of the 421 participants who completed the second part of the experiment, 2 failed at least 2 attention checks contained in part 2. Additionally, 6 participants failed to achieve at least 80% accuracy on the priming words in the goal prime task. This resulted in the removal of 2 participants who had been assigned to the action condition, and 4 participants who had been assigned to the inaction condition. Finally, outlier analysis

resulted in the removal of 13 participants whose perceived attitude change score, direct

attitude change score, and/or biased assimilation score was more the three standard

deviations from the sample mean. These three variables theoretically tap a similar

construct and were hypothesized to relate to one another. Indeed, correlational analyses

of these variables substantiate this claim (see below). Thus, an outlier on any one of these

dependent variables suggests something peculiar about the participants understanding of

the questions and/or trustworthiness of their data. Therefore, despite the loss of statistical

power, a conservative approach was taken such that these participants were removed

from the analyses completely, rather than only for the dependent variable in which they

were an outlier. This reduced the final sample to 400 participants.

<div align="center">Initial Attitude Direction</div>

A chi-square analysis verified that participants with initially favorable and

unfavorable attitudes toward illegal immigration were evenly distributed across the 12

possible conditions created by the 3(Prime) x 2(Message Order) x 2 (Measure Order)

factorial design. Further, this distribution remained equitable even when removing any

outlier participants and participants removed for the other reasons described above ($n =$

21), $\chi^2 = (11, N=400) = .999, p > .99$. Finally, as anticipated, participants who were

against the topic reported more negative initial attitudes ($M = 2.50, SD = 1.19$) than

participants who were in favor of the topic ($M = 6.72, SD = 1.12$), $t(398) = 32.219, p <$

.001. Thus, the two groups categorized as in favor of, or against, the topic were indeed

different in their initial attitudes on the topic.

Additionally, given attitude extremity predicts attitude polarization (e.g., Lord et al., 1979; Miller et al., 1993), it was important to verify that initial attitude extremity did not differ between participants with initially favorable attitudes and those with initially unfavorable attitudes toward the impact of illegal immigration on the economy. Therefore, extremity scores were obtained by taking the absolute value of the difference of the initial attitude score from 5—the midpoint of the scale (Gvirsman, 2014). For example, if a participant's initial attitude score was a 2.5, their extremity score would be calculated by taking the absolute value of $2.5 - 5$, which would be a 2.5. Similarly, a participant with an initial attitude score of 7.5, would also have an extremity score of 2.5, by taking the absolute value of $7.5 - 5$. As no participant in part 2 could have a neutral initial attitude (i.e., a score of 5), scores ranged from 0.5 to 4.0 ($M = 2.29$; $SD = 1.22$) where larger numbers indicate more extreme initial attitudes. An independent samples t-test revealed a significant difference in initial attitude extremity, $t(398) = 5.982$, $p < .001$. On average, participants with initially unfavorable attitudes were more extreme ($M = 2.5017$, $SD = 1.19$) than participants with initially favorable attitudes ($M = 1.72$, $SD = 1.12$) toward the impact of illegal immigration on the economy. However, a 3(Goal Prime) x 2(Message-Display Order) x 2(Attitude-Measure Order) factorial analysis of variance (ANOVA) with extremity as the dependent variable revealed no significant main effects or interactions, all Fs < 1.157. This indicates that, overall, extremity was equitable across the conditions created by the other factors (as anticipated from the random assignment and counterbalancing procedures). The significant difference in extremity between those with initially favorable and unfavorable attitudes requires that

initial attitude direction be retained as a factor in the main analyses. Exploratory analyses will examine any impacts of initial attitude extremity.

<center>Main Analyses</center>

Perceived Attitude Change

To test the hypothesis that action/inaction primes moderate perceived attitude polarization, the perceived attitude change score—where positive (negative) scores indicate polarization (depolarization)—was submitted to a 2 (Initial Attitude Direction: Favorable vs. Unfavorable) x 3 (Goal Prime: Action vs. Inaction vs. Control) x 2 (Message-Display Order: For-Against vs. Against-For) x 2 (Attitude-Measure Order: Perceived First vs. Direct First) between-participants factorial ANOVA to first look for any effects of the counterbalancing factors. The homogeneity of variance assumption was met for his analysis, $F(23, 376) = .911$, $p = .584$. The results of the ANOVA revealed no significant main effects or interactions, all Fs < 2.26 and ps > .13. However, though not significant, attitude-measure order was associated with the largest F-value, $F(1, 376) = 2.253$, $p = .134$. Additionally, Measure Order x Prime also uncovered a weak indication of an order effect: $F(2, 376) = 1.288$, $p = .277$.

Because the F-values for all main effects and interactions that included initial attitude direction and message-display order were less than 1, these factors were dropped from a subsequent analysis. Nonetheless, this 3 (Goal Prime) x 2 (Measure Order) ANOVA yielded no significant main effects or interactions, all Fs < 2.7 and ps > .10. However, given measure order could impact the specific effects of goal primes on

perceived attitude polarization in a predictable way, a priori planned comparisons of goal

primes to test hypothesis 1 were separated across measure order (see table 1 below for

means and standard deviations). Numerically, the predicted pattern of results emerged for

participants who reported perceived attitude change first—the action goal condition

resulted in greater reported polarization than control or inaction conditions. However,

none of the planned comparisons achieved significance, all ts < 1and ps > .19, failing to

support Hypothesis 1A, that goal primes would moderate perceived polarization.

Table 2. Mean Perceived Attitude Change as a Function of Goal Prime and Measure
Order

Measure Order	Goal Prime		
	Action	Control	Inaction
Perceived First	*2.29 (3.28)	*1.85 (3.21)	*1.79 (3.14)
Direct First	*1.25 (2.63)	*1.55 (2.98)	*1.63 (2.90)

Note: Standard deviations are in parentheses. Positive values indicate polarization.
Asterisk (*) indicates value is significantly different from zero, p < .001.

Actual Attitude Change

The above analysis was repeated to test for the predicted effect of goal prime on

the direct measure of attitude change, where positive scores depict polarization and

negative scores depict depolarization of post-message attitudes relative to initial attitudes.

First, all factors (2 [Initial Attitude Direction] x 3 [Goal Prime] x 2 [Message-Display

Order] x 2 [Attitude-Measure Order]) were included to check for effects of the

counterbalanced factors. A significant Levene's test indicated a violation of the

homogeneity of variance assumption, $F(23, 373) = 1.676$, $p = .027$. However, the large

number of conditions in this initial analysis resulted in several conditions with sample

sizes of less than10, likely contributing to the significant Levene's test. Therefore, results

were examined to determine if message-display order and/or attitude-measure order could be removed in order to collapse across conditions and address the small sample sizes and significant Levene's Test. Measure order yielded no main effects or interactions, all $Fs <$ .80 and $ps > .390$.

Therefore, the analysis was rerun after excluding measure order as a factor. Results of the 2 (Initial Attitude Direction) x 3 (Goal Prime) x 2 (Message-Display Order) ANOVA did not yield a significant Levene's Test, correcting the previous problem, $F(11, 388) = 1.373$, $p = .183$. A significant main effect of initial attitude direction was obtained, $F(1, 388) = 27.878$, $p < .001$, $\eta_p^2 = .067$. Examination of the means indicated that attitudes toward the impact of illegal immigration on the economy became more polarized for participants with initially favorable attitudes, ($M = .20$, $SD = 1.21$), whereas attitude depolarization occurred for those with initially unfavorable attitudes ($M = -0.44$, $SD = 1.11$). If participants with initially unfavorable attitudes tend to report their initial attitudes in the extreme ends of the scales, attitude depolarization is likely due to regression toward the mean, an interpretation proposed by Miller et al. (1993) and Greitemeyer (2014). Indeed, the previously reported attitude extremity differences between those with initially favorable and unfavorable attitudes substantiate this interpretation of these results.

This analysis also revealed a marginally significant interaction of goal prime and message display order, $F(2, 388) = 2.961$, $p = .053$, $\eta_p^2 = .015$. Although initial attitude direction did not interact with goal prime or message-display order, all $Fs < 2.25$ and $ps >$ .10, it could not be removed as a factor due to its significant main effect. Therefore, to

specifically test Hypothesis 1B, that action goal primes would result in the greater

attitude polarization compared to the control prime condition, four planned contrasts were

conducted on these remaining conditions. First, to explore the marginally significant Goal

Prime x Message-Display Order interaction, goal prime effects were examined within

each condition of display by comparing action to control and then inaction to control.

Only one significant result emerged. When the "For message" appeared on the left side of

the screen, action compared to control goals were significantly different from each other

as indicated by the means shown in Table 3, $t(388) = 3.082$, $p < .002$. However,

examination of the mean differences from zero revealed that participants in the action

goal condition who saw the "For message" on the left side of the screen slightly polarized

but not significantly, $t < .210$, $p > .4$, and significant depolarization occurred in the

control condition, $t(388) = -2.998$, $p < .002$. No other effects of the primes within each

message display order condition differed from each other, ts $< |1.072|$, ps $> .142$.

The 2 (Initial Attitude Direction) x 3 (Goal Prime) x 2 (Message-Display Order)

ANOVA also yielded a marginally significant main effect of Goal Prime, $F(2, 388) =$

2.589, $p = .076$, $\eta_p^2 = .013$. Two planed contrasts tested Hypothesis 1B, this time only

comparing the action to control as well as inaction to control conditions. The first

contrast, comparing only action to control, yielded a significant difference, $t(388) =$

2.243, $p < .012$. However, mean scores indicate both action and control primed

participants depolarized on average as indicated by the negative means (see Table 3 for

means and standard deviations). Participants in the action condition tended to depolarize

less than those in the control condition and only participants in the control condition significantly depolarized relative to zero.

The second contrast, testing the hypothesis that inaction goal primed participants would show less attitude polarization than control primed participants was also tested via planned comparisons. A marginally significant difference was found, $t(397) = -1.452$, $p < .074$; however, this result was opposite the predicted pattern. An examination of the means indicates both groups depolarized rather than polarized and both means were significantly different from zero. In summary, contrary to the prediction made by Hypothesis 1B, participants tended to maintain their initial attitude or depolarize rather than polarize.

Table 3. Mean Actual Attitude Change as a Function of Goal Prime and Display Order

Display Order	Goal Prime		
	Action	Control	Inaction
For First	0.029 (1.16)	*-0.477 (1.30)	-0.176 (1.03)
Against First	*-0.323 (0.99)	*-0.446 (1.19)	-0.200 (1.32)
	-0.143 (1.08)	*-0.462 (1.24)	*-0.188 (1.17)

Note: Standard deviations are in parentheses. Negative values indicate depolarization. Asterisk (*) indicates value is significantly different from zero, p < .05.

Biased Assimilation

Next, to test the relationship of goal primes to biased assimilation, biased assimilation scores were submitted to the full 2 (Initial Attitude Direction: Favorable vs. Unfavorable) x 3 (Goal Prime: Action vs. Inaction vs. Control) x 2 (Message-Display Order: For-Against vs. Against-For) x 2 (Attitude-Measure Order: (Perceived First vs. Direct First) between-participants factorial ANOVA. Levene's Test was not significant, $F < 1$ and $p > .5$. A main effect of initial attitude direction emerged, $F(1, 376) = 4.299$, $p =$

.039, $\eta_p^2 = .011$, such that those with initially unfavorable attitudes ($M = 2.84, SD = 2.95$) biasedly assimilated the messages more than participants with initially favorable attitudes ($M = 2.12, SD = 2.87$) Consistent with Miller et al. (1993), whereby initial attitude extremity increases biased assimilation, this result is likely due to the observed differences in initial attitude extremity between the two groups. In addition to the main effect, an unexpected four-way interaction of goal prime, message-display order, attitude-measure order, and initial attitude direction emerged, $F(2, 376) = 3.277, p = .039, \eta_p^2 = .017$. However, elimination of initial attitude direction as a factor from the analysis did not yield a three-way interaction of Goal Prime, Message Display Order, and Measure Order, $F < .7, p > .5$ suggesting the result was due largely to the unanticipated effects of initial attitude direction. No a priori theoretical reason justifies the four-way interaction, thus it will not be considered further. Finally, no other main effects or interactions approach significance after removing initial attitude direction from the analysis, all Fs < 1.279 and $ps > .279$. Thus, neither goal prime, nor any combination of goal prime with other factors considered in the original analysis significantly effected biased assimilation of the illegal immigration messages, contrary to the prediction made by Hypothesis 1C.

Therefore, given goal primes did not influence biased assimilation or the attitude polarization dependent variables; there is little need to explore mediation (Hypothesis 2). It is important to note, however, that as predicted in the current experiment and by prior research (Lord et al., 1979; Miller et al., 1993), biased assimilation positively correlated with both actual attitude polarization, $r(398) = .462, p < .001$, and perceived attitude polarization, $r(398) = .495, p < .001$.

Impetus for an Exploratory Analysis

Although the originally hypothesized mediated relationship between goal prime

and polarization (direct or perceived) could not be examined, other yet unexplored factors

could potentially interact with goal primes to provide a stronger link to both measures of

attitude polarization as well as biased assimilation. For instance, the attitude polarization

literature repeatedly demonstrates the effect of initial attitude extremity on biased

assimilation and attitude polarization (Boysen & Vogel, 2007; Lord et al., 1979; Miller et

al., 1993; Taber & Lodge, 2006). Indeed, the results of the present research suggest this

as a possibility. First, initial attitude extremity (hereafter referred to as extremity) differed

such that participants with initially unfavorable attitudes held more extreme initial

attitudes compared to those with initially favorable attitudes. Second, the observed main

effects of initial attitude direction for biased assimilation as well as actual attitude

polarization were interpreted as likely due to the extremity differences between the two

groups. Third, extremity positively correlates with biased assimilation, $r(398) = .465$, $p <$

.001, and perceived attitude polarization, $r(398) = .328$, $p < .001$, but not significantly

with actual attitude change, $r(400) = -.085$, $p = .088$. Therefore, extremity provides an

alternative and potentially more robust factor that could interact with goal primes and

lead to attitude polarization while also eliminating the need to consider initial attitude

direction as a factor in the analysis. However, since attitude extremity is a continuous

variable, the exploratory analyses were carried out using linear regression. Furthermore,

dummy coding was used for goal prime given it is a categorical variable with three levels,

wherein the control condition was the comparison condition (coded as 0, 0) for both the action (1, 0) and inaction conditions (0, 1; Aiken & West, 1991).

Exploratory Analysis

Before conducting any regression analyses, extremity was mean centered. Next, all main effects and interactions that included each prime dummy code factor, Message-Display Order, Attitude-Measure Order, and Extremity were entered using blocked linear regression (e.g., main effects in block 1, 2-way interactions in block 2, 3-way interactions in block 3, etc.) with perceived attitude change as the outcome variable. No interactions were significant, all ts < |1.64| and ps > .10. The final model included measure order and extremity as predictors from block 1. Attitude-measure order significantly predicted perceived polarization, $b = .606$, $SE = .286$, $t(397) = 2.12$, $p = .035$, such that greater attitude polarization was reported when the perceived measure was presented to participants first. Extremity also predicted perceived polarization, $b = .829$, $SE = .117$, $t(397) = 7.07$, $p < .001$, such that more extreme initial attitudes predicted greater perceived polarization. These 2 factors explained a significant proportion of the variance in perceived attitude change, $R^2 = .12$, $F(2, 397) = 26.512$, $p < .001$.

The analysis was repeated with actual attitude change as the outcome variable. No interactions were significant, all ts < |1.49| and ps > .13, leaving extremity and the goal prime dummy variables from block 1 in the final model. Extremity marginally predicted direct attitude change, $b = -.081$, $SE = .048$, $t(396) = -1.687$, $p = .092$, such that less extreme initial attitudes resulted in greater attitude change. The dummy variable

comparing inaction (1) to control (0) and action (0) was marginally significant, $b = .267$, $SE = .143$, $t(396) = 1.872$, $p = .062$. The dummy variable comparing action (1) to control (0) and inaction (0) was significant, $b = .319$, $SE = .143$, $t(396) = 2.23$, $p = .026$. A test of the difference between the slopes for the two dummy variables representing goal primes was not significant, $z = -0.35$, $p = .36$. Together, these 3 predictors explained a significant portion of the variance in actual attitude change, $R^2 = .021$, $F(3, 396) = 2.887$, $p = .035$. However, the overall model was no longer significant after removing extremity as a predictor variable, $R^2 = .009$, $F(2, 397) = 2.894$, $p = .057$.

Finally, the analysis was repeated with biased assimilation as the outcome variable; however, only extremity, attitude-measure order and the two dummy variables for the goal primes were entered into the model given only these variables predicted perceived or actual attitude change. Only extremity significantly predicted biased assimilation, $b = 1.122$, $t(398) = 10.49$, $p < .001$. Overall, extremity explained a significant portion of the variance in biased assimilation of the messages, $R^2 = .217$, $F(1, 398) = 110.039$, $p < .001$. Given that extremity was the only predictor of biased assimilation and perceived polarization, it was submitted to a mediation analysis using SPSS PROCESS by Hayes (2013). Results revealed that biased assimilation mediated the relationship between initial attitude extremity and perceived attitude change consistent with recent research (Greitemeyer, 2014). Results are summarized in Figure 1. Mediation analysis was not conducted with actual attitude change since extremity did not significantly predict actual attitude change.

Figure 1. Model of Initial Attitude Extremity as a Predictor of Perceived Attitude Change Mediated by Biased Assimilation
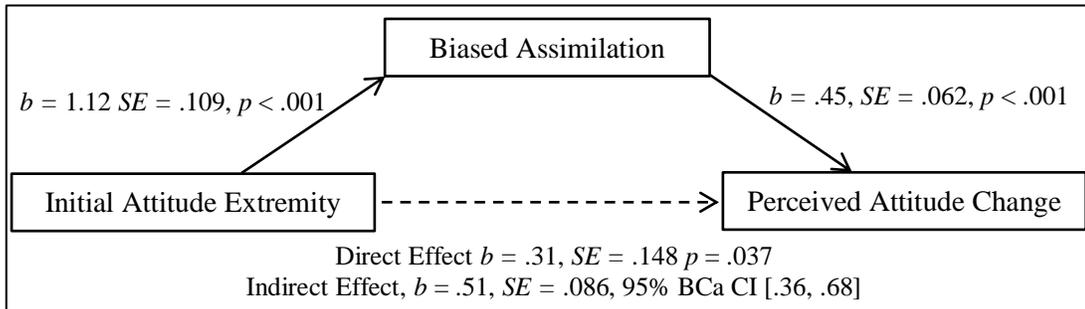
Note: The indirect effect confidence interval is based on 1000 samples.

DISCUSSION

Attitudes are important for action, helping guide behavior. Early research examining the impact of general action and inaction goals on attitude change demonstrated a consistent pattern of results such that action (inaction) goals increase (decrease) activation of an existing attitude, in turn leading to less (more) attitude change in response to a persuasive message (Albarracín & Handley, 2011). In this situation, action goals facilitate activation of a relevant existing attitude in preparation for an upcoming behavior (i.e., reporting one's attitude on a forwarded topic). Therefore, participants are less likely to consider information that might challenge that attitude and thus hinder future action, resulting in less attitude change. However, more recent research showed this pattern of results can be reversed such that action (inaction) goals increase (decrease) attitude change depending whether initial attitude uncertainty is (is not) made salient (Owenby & Handley, 2014). Here, when one's uncertainty in an attitude is made salient, an action goal will motivate the search for information to solidify the attitude so that it can better inform future action. Therefore, in this latter situation, action goals lead to greater attitude change (i.e., persuasion).

The present research set out to investigate and extend the idea that general action goals enhance the default tendency in a given situation, whereas general inaction goals diminish the default tendency in a given situation. Up to this point, research on action and inactions goals and attitude change has only investigated situations in which participants encounter counter-attitudinal messages, likely leading to persuasion. The present research, however, investigated possible effects of these goals on attitude polarization

following a mix of attitude consistent and inconsistent information. Attitude polarization presents a unique context for investigating the effect of action and inaction goals. In particular, polarization is common when individuals have a pre-existing attitude. Thus, it is possible that action goals will enhance individuals' activation of their relevant attitude, decreasing attitude change in response to new information (as seen in Albarracín & Handley, 2011). Alternatively, as argued earlier, action goals might instead enhance the default tendency in a given situation. Thus, when individuals have a pre-existing attitude and receive information both supporting and opposing that attitude, action (inaction) goals might enhance (reduce) attitude polarization (attitude change) given that is the default tendency in this context. The reported experiment was designed to test for these possibilities.

In this experiment, participants completed a short screening survey in which they reported their attitudes toward the impact of illegal immigration on the economy as well as two unrelated topics. Participants reporting non-neutral attitudes toward the topic of illegal immigration were chosen to participate in the subsequent main experiment. Here, via random assignment, participants completed word fragments to prime either an action, inaction, or no (control) goal. Next, participants viewed equally strong but opposing arguments pertaining to the impact of illegal immigration on the economy in a side-by-side format. Finally, participants responded to direct and perceived measures of attitude change to assess polarization, and rated the persuasiveness of each message on the basis of how strong, compelling, convincing, and persuasive they found each message. An often cited mechanism of attitude polarization is biased assimilation of information,

whereby a person evaluates attitude-consistent information as stronger and more persuasive, but evaluates attitude-inconsistent information as weaker and less persuasive. This type of biased processing strengthens existing attitudes thereby making them more polarized and potentially useful for future actions.

Therefore, Hypothesis 1 predicted that that action goals would enhance this default tendency to biasedly process simultaneously presented, equally strong, opposing messages, and to report greater perceived and actual attitude polarization compared to a control condition. Conversely, it was predicted that inaction goals would diminish this default tendency, resulting in less biased assimilation of the messages, and less perceived and actual attitude polarization compared to a control condition. Furthermore, Hypothesis 2 predicted biased assimilation of the messages would mediate the relationship between goal primes attitude polarization (perceived and actual). However, overall, the data did not support this hypothesis.

First, consider perceived attitude polarization (Hypothesis 1A). As anticipated, marginal order effect of measure emerged. However, even when accounting for this order effect, perceived attitude polarization for participants in the action or inaction goal-prime conditions did not differ from participants in the control condition. Notably, when looking only at participants who reported perceived polarization first, the pattern of results followed the prediction; however, these results are uninterpretable given the lack of a statistically significant difference. Given the weak order effects, future research should investigate perceived and actual polarization separately in order to obtain unbiased reports of each measure.

Next, despite the methodological considerations to address likely ceiling effects for direct measures of attitude polarization, results for the direct measure also failed to support Hypothesis 1B; goal primes did not moderate the effect of actual attitude change (i.e., polarization) in the predicted direction. Here, an unanticipated effect of message order emerged, and upon closer examination of cell means, no change, or attitude depolarization, occurred for all goal prime conditions—quite opposite to the predicted attitude polarization. Related, participants with initially favorable attitudes reported slight polarization whereas participants with initially unfavorable attitudes reported slight depolarization. This result plausibly stems from the difference of initial attitude extremity between the two groups. Participants with initially unfavorable attitudes reported more extreme attitudes than participants with initially favorable attitudes. This finding follows previous research showing that extreme initial attitudes tend to result in attitude depolarization (on direct measures) due to regression toward the mean (Greitemeyer, 2014; Miller et al., 1993).

Finally, goal primes failed to moderate biased assimilation, and failed to support Hypothesis 1C. Given this, biased assimilation could not serve as a mediator of the effect of goals primes on attitude polarization, and prohibited testing Hypothesis 2. Though unpredicted, participants with initially unfavorable attitudes felt the message consistent with their initial attitude was stronger than participants with initially favorable attitudes. This finding might suggest the presented messages were of different strength, but pretesting ensured their equivalence. As a result, this unexpected difference is likely due

to the previously discussed differences in initial attitude extremity between the two groups.

Due to the lack of support for Hypothesis 1 or 2, an exploratory analysis reexamined the data by considering initial attitude extremity rather than direction as a factor. Though exploratory, in that no *formal* hypotheses considered attitude extremity as a factor in the present research, ample previous research (Boysen & Vogel, 2007; Lord et al., 1979; Miller et al., 1993; Taber & Lodge, 2006) suggests extremity could interact with goal primes and potentially influence each of the dependent variables according to the initial predictions. Consistent with previous research, initial attitude extremity predicted perceived polarization as well as biased assimilation. Furthermore, results from a mediation analysis confirmed previous research demonstrating biased assimilation as the underlying mechanism of perceived attitude polarization. However, the results failed to uncover any interactions with goal prime.

Overall, the present experiment replicated several findings in the attitude polarization literature. Participants biasedly assimilated the messages according to the direction of their initial attitude, and reported perceived polarization, but slight depolarization (i.e., persuasion) on the actual polarization measure. Finally, extremity influenced perceived polarization via biased assimilation of the messages. Nevertheless, the replicated effects were not influenced by the goal-prime manipulation. This is somewhat surprising given that these primes have produced results in other attitude persuasion contexts (e.g., Albarracín & Handley, 2011; Owenby & Handley, 2014).

However, several limitations within the current study provide insights into why the goal primes may have failed to influence the results.

<div align="center">Experimental Limitations</div>

In general, the results suggest a possible failure of the goal-prime manipulation contrary to a large body of evidence attesting to the robust effects of the primes. Specifically, in 2011, Albarracín and colleagues conducted a meta-analysis of all published general action and inaction goal-priming experiments and obtained a mean effect size of the primes of $d = .45$, a moderate effect. However, several factors unique to the present experiment may explain the current failure to find any significant effects of the goal primes.

First, unlike typical psychology research conducted in university laboratories where the environment is tightly controlled to prevent distractions, the present experiment was conducted online via AMT. Self-report data from Chandler et al. (2014) found that approximately 38% of participants engaged in other activities (e.g., watching television, listening to music, chatting online) while completing an experiment on AMT. Thus, even if the goal-prime manipulation was successful, it is possible the goals exhibited their effects on another activity (e.g., chatting online) rather than on the message processing and attitude polarization as intended by the experimental design. This possibility could be empirically tested; however, previous research shows that satisfied action or inaction goals cease to exert their effects on subsequent tasks (see Albarracín et al., 2008 Experiment 7; Albarracín & Handley, 2011 Experiment 7). Both of these

experiments manipulated the opportunity for goal satisfaction and showed that when participants had the ability to satisfy the previously primed goal, it ceased to exert effects on the subsequent task.

Additionally, the demographic data in the current experiment shows that the current AMT sample contains a lot of variability unlike a typical university participant pool. Although this may increase generalizability of findings, the more heterogeneous sample can also add noise to the data which contributes to a larger error term. Therefore, the increased demographic variability may have weakened the effects of the goal primes typically observed in more homogenous samples due to a lack of overall statistical power (Johnson & Borden, 2012).

It is also important to consider the fact that AMT is an online labor market. Accordingly, AMT workers list "making money" as the primary motivation for completing tasks (Litman, Robinson, & Rosenzweig, 2014). In experiments investigating the effects of motivations or goals, such as the current thesis, participants' goal to make money may override or diminish the typical effects of goal primes found in laboratory experiments. These factors provide a plausible explanation for the lack any observed goal prime effects on attitude polarization or biased assimilation. Therefore, the hypothesized pattern of results may simply be hiding in the noise created by the unique factors of conducting research with AMT workers.

A final possibility for the lack of findings may result from the experimental design. During the part 1 screening survey, participants answered several attitude related questions pertaining to the topic of the main experiment. Thus, their attitudes toward the

impact of illegal immigration on the economy might have been highly activated. This possibility was anticipated and the addition of two individual-difference surveys at the start of part 2 of the experiment served to add temporal distance between the initial attitude reports and the goal prime manipulation. However, in retrospect, this may not have been enough time to allow the activated attitudes of the participants to return to baseline levels. Thus, attitudes may have been highly activated for all participants, eliminating further effects of attitude activation or deactivation from the goal primes. Experiment 6, from Albarracín and Handley (2011) provides empirical support for this possibility. In that experiment, half of the participants completed a task prior to the goal prime task that facilitated attitude expression and activation thereby eliminating the effects of the goal primes on attitude change. In the present experimental design, the seven attitude-related questions answered by participants in part 1 may have had the same, though unintended effect, thereby eliminating the effect of the goal prime manipulation. Future studies should collect initial attitude measures in only 1 to 2 questions, or collect initial attitude measures at least a day apart from the main experiment to make certain target attitudes have time to return to baseline levels.

<div align="center">Future Directions</div>

In light of the present results, several possibilities exist for future research. First, given the lack of any significant goal prime effects, the experiment should be repeated in a laboratory setting with tighter environmental controls and a more homogeneous sample. Additionally, more time should be placed in between initial attitude collection measures

and the main experiment. Finally, the experiment should only examine one measure of attitude polarization at a time, either perceived or actual, given the observed order effects from the current experiment.

Second, although the current research explores attitude polarization in the context of mixed information, some researchers (e.g., Tesser, 1978; Kuhn & Lao, 1995) suggest that attitude polarization can also result from merely thinking about the attitude object, excluding the need to process or consider any outside or new information. In this model, individuals possessing well-defined concepts of an attitude object tend to generate attitude-consistent thoughts when thinking about the object, which, over time, results in attitude polarization (Miller & Tesser, 1986). More recently, Clarkson, Tormala, and Leone (2011) demonstrated how, along with thought consistency, thought confidence mediates the relationship between opportunity to think about an attitude object and attitude polarization. Thus, in addition to biased assimilation, it may be fruitful to investigate other mediators of a possible effect of goal primes on attitude polarization, such as the mere opportunity to think about one's attitude.

Finally, until now, research considering the default-tendency hypothesis as a means to explain the effects of general action and inaction goals has only looked at cognitively based scenarios (attitude change under uncertainty, attitude polarization). Motor output should also be explored to more fully demonstrate the effects of action and inaction primes in a default tendency framework. Zajonc (1965) addressed inconsistent findings pertaining to social facilitation research whereby researchers sometimes found performance of an individual improved in the presence of others, but for someone else

under the same circumstance, performance suffered in the presence of others. Similar to the default tendency hypothesis discussed in the present thesis, Zajonc (1965) offered a resolution to these apparently inconsistent results by suggesting the presence of other individuals "enhances the emission of dominant responses" within a given context (p.273).

As an example, consider novice and expert pool players. When practicing, novice pool players typically miss more shots than they make, whereas experts rarely miss. According to Zajonc, these dominant responses (i.e., the default tendency) would be enhanced in a social context. Thus, in the presence of others, the novices will miss more shots than they do when practicing alone and the experts will miss even fewer shots than when they practice alone. Conceivably then, general action and inaction goals may act in the same way, enhancing the default tendency of the player when primed with an action goal, and decreasing the default tendency when primed with an inaction goal. In the context of the pool players, action goals, like the presence of others, would result in worse performance for the novices and better performance for the experts compared to their respective baseline performance. However, an inaction goal would result the opposite pattern of performance—the novices would play better and the experts would play worse relative to their baseline performance levels. Thus, in light of the default tendency hypothesis, the application of general action and inaction goals in this novel area stands as an intriguing possibility for future research.

CONCLUSIONS

The current experiment sought to conceptually replicate and extend previous research suggesting that general action and inaction goals exhibit their effects in accordance with the default tendency of a given situation by exploring the effects of goal primes in an attitude polarization paradigm. Unfortunately, both the hypothesized and alternative hypothesized results were largely unsupported. However, several limitations of the methodology may explain the lack of observed effects of goals primes on attitude polarization or biased assimilation measures. Once addressed, future research reexamining the effect of goal primes in an attitude polarization paradigm may indeed clarify the nature of the effect goal primes have on attitudes and add additional evidence for a default tendency hypothesis.

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APPENDICES

APPENDIX A

ACTION, INACTION, AND CONTROL GOAL PRIMES

	Action Condition	Inaction Condition	Control Condition
Priming Words	MOV_	H_LT	Y_RD
	BEH_VI_R	PAR_LYZ_	VOC_TIO_
	E_GAGE	PAUS_	CA_DLE
	G_	STO_	F_W
	A_TIVE	STI_L	DO_TOR
	AC_ION	FRE_ZE	MAR_ET
	DOI_G	REL_X	CAST_E
	ST_RT	UNA_LE	T_OTH
	M_KE	C_LM	NAR_OW
	M_TIVA_ION	I_TERR_PT	_ETW_EN
Filler Words Used In All Conditions		WORL_	
		UNIQ_E	
		_YMBOL	
		NAT_RE	
		MO_SQ_ITO	
		LI_UOR	
		EL_CT_IC	
		_UNIOR	
		SQ_ARE	
		T_IPLE	
		EITHE_	
		R_NGE	
		_EMO_ADE	
		D_Y	

APPENDIX B

ILLEGAL IMMIGRATION MESSAGES

Argument For the Economic Benefits of Illegal Immigration	Argument Against the Economic Benefits of Illegal Immigration
"Taxes paid by immigrants and their children—both legal and unauthorized—exceed the costs of the services they use… Many government expenses related to immigrants are associated with their children. From a budgetary perspective, however, the children of immigrants are just like other American children… Both the immigrant children and children of U.S.-born citizens are expensive when they are young because of the costs of investing in children's education and health. Those expenses, however, are paid back through taxes received over a lifetime of work. The consensus of the economics literature is that the taxes paid by immigrants and their descendants exceed the benefits they receive—that on balance they are a net positive for the federal budget."	"Children in unlawful immigrant households receive heavily subsidized public education. Many unlawful immigrants have U.S.-born children; these children are currently eligible for the full range of government welfare and medical benefits. And, of course, when unlawful immigrants live in a community, they use roads, parks, sewers, police, and fire protection; these services must expand to cover the added population or there will be 'congestion' effects that lead to a decline in service quality. In 2010, the average unlawful immigrant household received around $24,721 in government benefits and services while paying some $10,334 in taxes. This generated an average annual fiscal deficit (benefits received minus taxes paid) of around $14,387 per household. This cost had to be borne by U.S. taxpayers."