

GENERALIZING TRAITS ACROSS SETTINGS CAN POLARIZE ATTITUDES TOWARD
SOCIAL GROUPS IN THE ABSENCE OF NEW INFORMATION

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Generalizing Traits Across Settings Can Polarize Attitudes Toward Social Groups in the Absence of New Information

One glance at contemporary bookshelves is enough to convince readers that we live in the Age of Polarization (Altmire, 2017; Klein, 2020; McCarty, 2019; Parson & Donehoo, 2019; Sides & Hopkins, 2015). On almost every issue, partisans on both sides seem to express more extreme and divergent opinions than ever before. On the issue of immigration, for example, one side depicts migrant caravan members as struggling families who seek honest work, while the other side calls them thugs and criminals.

Psychologists have identified several factors that contribute to attitude polarization, including biased assimilation of new information. When some bits of new information favor one side of an issue and other bits favor the opposite side, it might seem that both sides would moderate their opinions, moving toward a middle ground. Instead, research has shown that partisans on both sides tend to accept confirming evidence with little scrutiny and explain away disconfirming evidence so adroitly that they adopt even more extreme and polarized attitudes (Lord, Ross, & Lepper, 1979).

Previous research has also shown that attitudes can polarize even in the absence of new information. Abraham Tesser (1978) and his colleagues conducted a comprehensive program of research in which they gave participants initial reasons to like or dislike a target person or group, and then asked some of them simply to sit and think about the target for a few minutes. Compared to participants who performed an irrelevant task, thinkers reported having had thoughts of the same valence as their initial impressions, and subsequently reported polarized attitudes.

Tesser's (1978) research focused on "mere thought." Participants in their experiments were instructed merely to "think about what sort of person (group) this is—how you and other people might react to this person (group)" (Millar & Tesser, 1986, p. 262). With these open-ended instructions, some participants might have focused on their feelings, some on fantasized actions, and some on mentally repeating or rehearsing the initial information. A different, novel approach to studying attitude polarization in the absence of new information, then, might be to provide explicit instructions to go beyond the information given (Bruner, 1973) in a specific way that research suggests might lead to the types of thoughts likely to polarize attitudes.

When people get information about a target person's behavior in a specific type of situation, they typically ignore or discount the possibility that the behavior might have been situation-specific and instead, attribute the behavior to a stable, dispositional cause (Ross, 1977). They overgeneralize personality traits, for instance, and assume, contrary to empirical evidence on moral character (e.g., Hartshorne & May, 1928), that people who exhibit a trait in one setting are highly likely to exhibit that same trait in other, different settings. In fact, merely imagining and explaining a hypothetical event, such as a target's likely behavior in a different situation, increases its subjective truth value (Anderson, Lepper, & Ross, 1980; Koehler, 1991).

It seemed possible, then, that going beyond the information given by generalizing positive or negative trait information from one setting to other settings might polarize attitudes toward a target person or group, on the principle that two or more "observed" behaviors carry more weight than one. The obvious problem with such a scenario is that $1 + 1 \neq 2$ when one of them is an imaginary number. Even so, research psychologists have long recognized that attitudes entail as much psycho-logic as logic (Abelson & Rosenberg, 1958), and that inferences can take on a life of their own (Kunda, 1990).

Biased Assimilation

People often form assumptions and expectations about others after having observed limited evidence. Although assumptions and expectations are important for survival (Arkes, 1991; Cosmides & Tooby, 1996; Friedrich, 1990; Haselton & Buss, 2000; McKay & Dennett, 2009; Olson, Roese, & Zanna, 1996), activating them during evaluative responses can alter how new information is perceived through biased assimilation. Biased assimilation occurs when people accept new information that aligns with their pre-established assumptions and expectations and reject equally balanced new information that opposes them (Lord, Ross, & Lepper, 1979; Lord & Taylor, 2009).

Instead of considering the potential truths in each piece of information, people tend to perceive confirming information as true and disconfirming information as false. Doing so can subsequently produce polarizing effects. Lord, Ross, and Lepper (1979), for instance, had participants who either favored or opposed capital punishment read two fictitious studies detailing how capital punishment influenced homicide rates. One of the studies showed that capital punishment increased homicide, while the other study showed the opposite. Later, when participants evaluated each study, they praised the study that aligned with their own opinion of

capital punishment and criticized the study that did not. Perhaps most importantly, participants expressed more extreme attitudes toward capital punishment at the end of the experiment than their initial attitudes from the start of the experiment. It appears then that attitude polarization in the face of new information is likely, especially when people get the opportunity to confirm their own beliefs. Other research, however, has examined a topic more relevant to present concerns-- how people can polarize their own attitudes, without new information, by simply thinking about an attitude object.

Mere Thought and Attitude Polarization

In several studies, Tesser (1978) and his colleagues found that mere thought can polarize attitudes in the absence of new information. Sadler and Tesser (1973), for instance, had a confederate either criticize or compliment participants. After the negative or positive encounters, participants either thought about the confederate or read neutral paragraphs aloud. Finally, all participants rated the confederate's likability and reported positive, negative, and neutral thoughts that had occurred to them while thinking. As expected, participants liked the confederate who complimented them more than the one who criticized them, and this difference was stronger among participants instructed to think about the encounter. Mere thought polarized both positive and negative attitudes. Participants who took time to think about the encounter also reported predominantly positive thoughts about the complimenting confederate and predominantly negative thoughts about the criticizing confederate. Although the researchers did not report the specific thoughts, it seems at least possible that those self-generated thoughts remained salient to inform subsequent evaluations.

Follow-up studies showed that mere thought can polarize attitudes that are based on initial trait information rather than a first-person encounter (Tesser & Cowan, 1977). They also showed that mere thought polarizes attitudes more when initial attitudes are based on fewer rather than more traits (Tesser & Cowan, 1975), possibly because sparse information allows greater influence of self-generated thoughts that go beyond the information given. Other studies showed that the polarizing effects of mere thought are greater when thinking about an individual than when thinking about a group (Tesser & Leone, 1977), possibly because people have well-developed schemas about the personality of individuals, and less-developed schemas about the personality of groups. According to Tesser (1978), the opportunity for thought allows people to reinterpret inconsistent associations and develop new ones, thus making the new associations

more salient in future evaluations. Tesser and his colleagues noted, however, that reinterpretation and recruitment are likely to occur only when thinkers have well-developed schemas for the domain of interest (Millar & Tesser, 1986).

To summarize, Tesser's (1978) comprehensive program of research on self-generated attitude change showed that mere thought can change attitudes, but the researchers in these studies did not tell participants how or what to think. They also did not report specific self-generated thoughts, so it is impossible to know from their results whether participants in the mere thought conditions went beyond the information given.

Correspondence Inference and the Fundamental Attribution Error

One way of going beyond the information given involves interpreting a target person's behavior. Admittedly, it is impossible to truly know a person's personality traits, moral character traits, or intentions, so people evaluate others based on the behaviors they observe. People's interpretations of observed behavior tend to overestimate dispositional and underestimate situational causes. Correspondence inference and the fundamental attribution error are two well-known and comprehensively researched biases that address the causes and consequences of overestimating dispositional causes and underestimating situational causes. Correspondence inference theory holds that people make inflated inferences from other people's actions to their stable, enduring attitudes and dispositions (Jones & Davis, 1965). Similarly, the fundamental attribution error suggests that people often attribute behaviors to an individual's character, because they underestimate the impact of even powerful situations (Ross, 1977). Both theories predict unrealistic expectations for behavioral consistency, as well as misunderstanding the power of the situation in which the behavior occurred (Gilbert & Malone, 1995).

The consequences of these biases can be both positive and negative. Heider (1958) suggested that people make dispositional inferences in order to feel in control of their environments, even if the perceived control is illusory. Western culture might be especially inclined to employ these biases when seeking control, because Western culture emphasizes the responsibility of an individual's actions (Gilbert & Malone, 1995). Regardless of need for control, people readily make dispositional inferences, and at times, are likely correct when doing so. Unfortunately, when people make such inferences and are not correct, they might inaccurately infer that individuals or groups have more negative or positive characteristics than they do, which might polarize subsequent evaluations. This specific consequence of

correspondent inferences and the fundamental attribution error has not previously been investigated.

Cross-Situational Consistency of Moral Behavior

The tendency to overestimate dispositional and underestimate situational causes applies to all types of behavior, but it may be especially pronounced in attributing the cause of dishonest behavior. Research findings from over 90 years ago suggest that dishonest behavior is unlikely to generalize across settings. Hartshorne and May (1928), for example, examined cheating behavior in children at summer camp and found that children who cheated in one setting were not especially likely to exhibit dishonest behavior in slightly different contexts. The researchers concluded that moral character is far more flexible and context-dependent than had previously been imagined. Other research added to these findings, demonstrating low cross-situational correlation coefficients in a wide range of behavioral domains (for reviews see Mischel, 1968 and Vranas, 2009). These findings led to decades of debates about cross-situational consistency, but eventually many researchers came to a general consensus that although actual cross-situational correlation coefficients are often quite low, people *expect* a person's moral character traits to generalize more than they actually do (Jones & Davis, 1965; Ross 1977).

Though overgeneralizing character traits and morality may benefit people as a logical process that saves time and resources (Hogarth, 1981; Nisbett & Ross, 1980), there might be important consequences when people activate these generalizations during the evaluation of a social group. When people generalize beyond the information given and underestimate the power of a situation, they infer a level of cross-situational consistency that might polarize their attitudes. Knowing that a group's members acted suspiciously in one situation, for instance, might prompt inferences that group members would also act suspiciously in other, sometimes more serious settings. People might further come to associate these generalizations with the group and mistake them as facts, which could later affect their evaluations of the group's morality and ethics—a biased effect on moral judgments.

Imagining and Explaining Hypothetical Events

The mere act of considering or explaining the likelihood of an event can increase people's certainty of it. Logic suggests that people should modify their beliefs if those beliefs are later discredited. Anderson, Lepper, and Ross (1980), however, found that beliefs are surprisingly immune to logical attacks, particularly once people generate a causal explanation for

their correctness. In two studies, these researchers had participants read reports about a (fictitious) relationship between risk taking and being a successful firefighter. After reading the reports, half of the participants wrote an explanation for why such a relationship might exist, while the other half did not. When participants were later told that the initial information was fake, they still indicated a strong belief in the discredited information, and this was especially true for participants who explained their beliefs. Subsequent research found similar effects in which participants who wrote explanations about hypothetical situations were later more likely to believe they were true or would come true (Sherman, Zehner, Johnson, & Hirt, 1983; Campbell & Fairey, 1985).

In addition to explaining a hypothetical event and believing it to be true, simply imagining a possibility also increases its subjective truth value. Koehler (1991) suggested that this increase in truth value likely occurs because people temporarily assume the imagined hypothetical event is real and overestimate its probative relevance. When people mistakenly believe an imagined or hypothetical event to be probable, or even true, they might later evaluate the event in line with these beliefs. Although not previously addressed in empirical studies, this general principle of imagination and explanation might apply as well to estimating a target group's likely behavior in different situations. If people are given limited information about a group's behavior at sporting events and asked to estimate and explain how group members might behave in airports or courtrooms, for example, they might commit the fundamental attribution error, overestimate the likelihood of the same behavior in very different settings, and subsequently evaluate the target group as though group members behaved the same way across widely disparate settings.

Distinguishing Environmental Settings

Physical environment greatly influences human behavior. The types of behaviors that are adaptive and appropriate in one setting might prove maladaptive and inappropriate in another. This is because environmental settings are distinguishable and empirically distinct from each other. Barker (1968), for instance, identified 455 distinctly different behavior settings in one rural Midwest town. He identified a relationship between observable behavior in a specific setting and the physical properties of that setting (Barker, 1963). Researchers later conducted a cluster analysis on these settings and collapsed them into 12 general clusters (Price & Blashfield, 1975). Kenrick and colleagues (1990) modified these 12 clusters further to examine the

relationship between environment and personality. They were specifically interested in whether personality traits intersected with domicile and nondomicile settings. In several studies, they had participants write about when, how, and how often they exhibited various traits in six home and six public setting categories (Studies 1 and 2). They also asked participants how appropriate it would be to express various traits in each of the 12 settings (Study 3). Across all three studies, the researchers found that people expressed very different traits, and found very different traits appropriate, in each of these settings. Setting attributes were especially distinct and distinguishable in public settings. Dominance, for example, was very likely to be expressed in sports settings, whereas street settings tended to reflect intelligence, and business settings to entail self-control.

If physical environments are empirically distinct and involve different trait dimensions and constraints, then generalizing from a target group's expressed traits in one setting to the likelihood that the group would express the same traits in another, empirically different setting, might affect how the group is evaluated. If people knew that a group behaved in a hostile way in either street or sport settings, for example, they might overestimate the likelihood that group members would also display hostility in business settings, and infer that group members were hostile *in general*, which could polarize initially negative attitudes toward the group.

The Present Studies

To test these novel ideas about the effects of generalizing across settings on attitude polarization toward social groups, we created two fictitious groups modeled after controversial actual groups: two "migrant caravans" supposedly moving across Mexico toward the U.S. We expected that most participants would care about the immigration issue and would regard the character of caravan members as an integral part of their attitudes. Also, we could use pretest questions to ensure that participants started the experiments with attitudes that were moderately, not extremely, on one side or the other—leaving room for attitude change either toward or away from neutral. Because the two groups were fictitious, we could attribute either equally positive or equally negative behaviors to them. We could also craft the initial information about each group to coincide with traits at distinct points on Kiesler's (1983) interpersonal circle. Finally, we could describe the traits as having been displayed only in one type of setting and then ask participants to think about a group's behavior either in that same setting (rehearsal) or about their behavior in a different setting (generalization) that had been identified as distinct by Kenrick et al. (1990).

We used repeated measures designs with two group targets in each of the experiments to control for response bias. Repeated measures designs, however, require counterbalancing. It was necessary, for instance, to have some participants generalize for one group before rehearsing the initial traits and settings for the other group, whereas the other participants reversed that order, so that we could check on whether performing one of the tasks affected performance on the other. By using two distinct sets of traits and two distinct settings for the two groups, we could also check on whether the predicted effects of generalizing across settings were unique to one type of trait or to one type of setting.

In all three experiments, we selected through pretesting only participants who said they had never heard of and had no opinion one way or the other about either (fictitious) target group, and who also said they would have either moderately negative (Experiments 1 and 3) or moderately positive (Experiment 2) initial impressions of groups that displayed the equally positive or equally negative traits to be used in the main experiment. We then assigned participants to estimate the likelihood that one group would also display the given traits in a different type of setting (generalization) and to re-type the given traits and settings (rehearsal) for the other group, after which all participants reported their attitudes toward both groups. Experiment 1 used negative initial information to test whether post-manipulation attitudes would be more *negative* for the generalized group than the rehearsed group. Experiment 2 used positive initial information to test whether post-manipulation attitudes would be more *positive* for the generalized group than the rehearsed group. Experiment 3 used initially negative initial information to test whether judgments of *moral character* would be more negative for the generalized group than the rehearsed group.

Experiment 1

Experiment 1 was designed to provide an initial test of whether generalizing from limited information about a group's *negative* traits across settings can polarize negative attitudes toward that group. To test this hypothesis, we created two fictitious migrant caravan groups. Participants received equally negative trait information about the two groups' traits in either street or sport settings. The initial trait information was intended to create moderately negative attitudes about the target groups, prior to the experimental manipulations.

After learning this initial information about their assigned target groups, participants were asked to generalize about the likelihood that members from one of the migrant caravan groups

would display the same traits in business and miscellaneous settings. For the other group, participants simply rehearsed the information given. The order of generalizing or rehearsing was counterbalanced. After participants generalized or rehearsed the given information for each group, they completed several dependent measures to assess their impressions and attitudes toward the group. We hypothesized that participants would report significantly more negative attitudes when they made cross-situational generalizations from initial information than when they rehearsed initial information.

Method

The prediction for all three experiments was that post-manipulation attitudes would be more polarized toward the group for which participants went beyond the information given than toward the group for which participants repeated or rehearsed the information given. This prediction involved a one factor repeated measures analysis of variance (ANOVA). By G-Power, testing this hypothesis with estimated effect size of .10, power of .80 and correlation between the two measures of .75 required a sample size of approximately 100.

Participants

In Experiment 1, 97 U.S. MTurk workers (35 men and 62 women) participated for payment of \$2.50. Their ages ranged from 22 to 74 years old ($M = 41.65$, $SD = 12.25$ *Mdn* age = 39) and their years of education ranged from 12 to 28 ($M = 15.51$, $SD = 2.21$, *Mdn* years of education = 16). Participants qualified for participation only if they were U.S. citizens with English as a first language.

Procedure

Participants completed all experimental materials online using Qualtrics survey software. Only those who indicated no previous knowledge of or opinion about the two target groups were included in the main survey. To participate further, they also had to indicate that they would have a moderately negative (not extreme or neutral) attitude if they knew only the specific traits we would subsequently attribute to the migrant groups.

Initial group information. Participants read that two large caravans, the Salaban and Matanega caravans, were currently traveling across Mexico in hopes of being admitted into the United States. They also read that they would learn more about each caravan, but that the two groups had very little in common with each other. Participants were then randomly assigned to

one of eight conditions in a 2 (trait dimension: mistrusting vs. hostile) X 2 (initial setting: street vs. sport) X 2 (order: generalize first vs. generalize second) design.

Trait dimensions. Participants read that eight unbiased U.S. citizens who had each lived in Matanega or Salaban for more than a year had witnessed people from the migrant groups acting either crafty and cunning (i.e., mistrusting; $n = 49$) or argumentative and critical (i.e., hostile; $n = 48$) in eight specific settings. These two sets of traits are equally likable (Anderson, 1968) but represent distinctly different and separated segments (hostile vs. mistrusting) on Kiesler's (1983) Interpersonal Circle.

Initial settings. Within each of the two traits, using distinctions adapted from Barker (1968) and from Kenrick and colleagues (1990), the settings in which the traits were witnessed involved either *streets* (street fair, fireworks display, picnic, barbeque, parade, carnival, stag party, block party) or *sports* (bowling alley, wrestling match, pool hall, volleyball court, horseshoe pitch, poker game, skating rink, basketball court).

Order. For one of the two caravans, participants were asked to *generalize* from the initial information by estimating the likelihood of, and giving a brief example of caravan members displaying each of the given traits in business/miscellaneous settings (attorney's office, bank, parking lot, congested street, welfare office, airport, courtroom, police station).

For the other caravan, participants were asked to *rehearse* the initial information by typing the behavior observed, and the setting the behavior was observed in for each of the eight observers who supposedly had witnessed the same behaviors in each of eight settings of the same type. Note that both the traits and the settings were repeated in these "rehearse" answers.

Participants either generalized first or rehearsed first.

Dependent measures. After generalizing or rehearsing the information given for each caravan, participants reported their impressions of that caravan from $-4 = \textit{extremely negative}$ to $4 = \textit{extremely positive}$. They also reported their attitudes toward admitting that caravan's members to the United States from $-4 = \textit{extremely oppose}$ to $4 = \textit{extremely support}$, their willingness to interact with that caravan's members socially from $-4 = \textit{very much avoid}$ to $\textit{very much approach}$, and their willingness to do business with that caravan's members from $-4 = \textit{very much avoid}$ to $4 = \textit{very much approach}$.

All participants then completed a Social Desirability Scale (Crowne & Marlowe, 1960) and tried to guess the experimental hypothesis. Both measures were included to rule out

experimental demand. No participant in any of the three experiments correctly guessed the hypothesis. Finally, all participants in Experiments 1 and 2 wrote a description of each caravan's members in their own words—a task included to test whether descriptions of one of the caravans contained more references to settings. This task was not included in Experiment 3 because settings were almost never mentioned. All three experiments ended with a process debriefing, which reliably removes any effects of experimentally induced attitude change (Ross, Lepper & Hubbard, 1975).

Results

Analyses examined whether generalizing about a group's negative traits across settings polarized attitudes relative to rehearsing the same negative traits, and whether generalization ratings predicted post-manipulation attitudes.

Attitudes. Did generalizing make attitudes more negative than rehearsing? Table 1 shows results from separate one-way repeated measures ANOVAs on each attitude measure after generalizing and rehearsing. As shown on the top row of Table 1, participants reported more negative impressions of the migrant groups after generalizing than after rehearsing, $F(1, 96) = 12.52, p = .001, \eta^2_p = .12$. They were also significantly less supportive of admitting group members to the United States, $F(1, 96) = 13.45, p < .001, \eta^2_p = .12$, and less willing to socialize with, $F(1, 96) = 9.53, p = .003, \eta^2_p = .09$, or do business with, $F(1, 96) = 7.63, p = .007, \eta^2_p = .07$, migrant group members if they were admitted. Finally, as shown on the bottom row of Table 1, when responses to the four attitude questions were averaged (generalize, $\alpha = .90$; rehearse, $\alpha = .92$), participants expressed more negative combined attitudes toward the migrant groups after generalizing than after rehearsing, $F(1, 96) = 15.06, p < .001, \eta^2_p = .14$.

Table 1. Mean attitudes after generalizing versus rehearsing negative traits displayed by migrant caravan members (Experiment 1).

	Generalize		Rehearse		<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Impression	-1.30	1.29	-.84	1.28	.001
Admit to U.S.	-1.02	1.86	-.60	1.71	< .001
Socialize with	-1.10	1.75	-.66	1.87	.003
Conduct Business with	-1.03	2.05	-.62	2.00	.007
Combined Attitude	-1.11	1.54	-.68	1.55	< .001

Using separate mixed model ANOVAs, the effects of generalizing across settings on attitude polarization were not qualified by interactions with the caravan's personality type (hostile vs. mistrusting), interaction $F(1, 95) = .19, p = .661; \eta^2_p < .01$, initial setting (street vs. sport), interaction $F(1, 95) = .15, p = .70, \eta^2_p < .01$; order (generalize first vs. rehearse first), interaction $F(1, 95) = 1.21, p = .275, \eta^2_p = .01$; or participant sex (male vs. female), interaction $F(1, 95) = 1.01, p = .317, \eta^2_p = .01$. Using linear regression analyses to predict attitude change, the effects of generalizing were also not qualified by interactions with age, $b = .01, SE = .01, t = .85, p = .395, R^2 = .01$; level of education, $b = -.06, SE = .05, t = 1.15, p = .255, R^2 = .01$; or social desirability, $b = -.04, SE = .05, t = .95, p = .343, R^2 = .01$. There were also no significant differences in the time participants spent generalizing ($M = 404.55$ seconds, $SD = 530.95$ seconds) versus rehearsing ($M = 400.33$ seconds, $SD = 252.93$ seconds) about the assigned groups, $F(1, 96) = .01, p = .943, \eta^2_p < .01$. Time spent generalizing was also not predictive of either post-generalizing attitudes, $b < .01, SE < .01, t = 1.37, p = 1.74, R^2 = .02$, or the difference in attitudes between the generalized versus rehearsed group, $b < .01, SE < .01, t = .67, p = .506, R^2 = .01$, so the effects of generalizing could not be attributed to greater time spent generalizing than rehearsing the traits and settings.

Generalization ratings. Was attitude polarization predicted by estimated likelihood that the target group would display the same traits in very different settings? First, mean estimated likelihood was significantly above the scale mid-point, $M = 6.65$, $SD = 2.19$, one sample $t(96) = 29.89$, $p < .001$. Despite decades of empirical findings that cross-situational consistency of behavior is minimal (Hartshorne & May, 1928; Mischel, 1968; Vranas, 2009), participants estimated its likelihood as high. In addition, their likelihood estimates for cross-situational consistency significantly predicted combined post-generalization attitudes, $t(95) = -5.32$, $p < .001$. The more likely participants thought it was that the target group would display the same traits across different settings, the more negative were their post-generalization attitudes.

Discussion

To summarize, we found that regardless of personality type, initial setting, or order, participants reported more extreme negative attitudes toward the caravan for which they generalized than toward the caravan for which they rehearsed the information given. Participants who received negative group information reported more extreme overall impressions of the group, more extreme views on admitting them to the U.S., and more extreme tendencies to approach or avoid socializing and doing business with members of the target group. Further, when participants generalized, ratings of the likelihood that caravan members would display the given traits in the other, non-given setting, were significantly above the scale midpoint and significantly predictive of post-manipulation attitudes. The higher the rated likelihood of caravan members displaying the given traits in the generalized setting, the more negative the participant's subsequent attitude. The first experiment, however, examined only attitudes toward negatively perceived groups, whereas both theory and research suggest these effects should also occur when groups are *positively* perceived. Experiment 2 addressed these concerns using a nearly identical methodology, except that the initial information about both groups was positive.

Experiment 2

Method

Participants

A total of 95 U.S. MTurk workers (46 men and 49 women) participated for \$2.50 payment. Their ages ranged from 24 to 68 years old ($M = 39.54$, $SD = 11.01$, Mdn age = 36) and their years of education ranged from 11 to 26 ($M = 16.11$, $SD = 2.68$, Mdn years of education = 16). Participants were required to meet the same qualification criteria as in Experiment 1.

Procedure

Participants completed all experimental materials online using Qualtrics survey software. After collecting informed consent and initial demographic questions, all participants followed an identical procedure as in Experiment 1 with one exception: all participants read *positive* trait information about the two migrant groups.

Participants read that people from the migrant groups were witnessed acting either agreeable and obliging (i.e., friendly; $n = 48$) or innocent and generous (i.e., trusting; $n = 47$) in eight specific settings. These two sets of traits are equally likable (Anderson, 1968) and represent distinctly different and separated segments (friendly vs. trusting) on Kiesler's (1983) Interpersonal Circle. After participants read the initial group information, they completed the same generalization and rehearsal tasks, dependent measures, Social Desirability Scale (Crowne & Marlowe, 1960), and debriefing (Ross, Lepper & Hubbard, 1975) as in Experiment 1.

Results

As in Experiment 1, analyses examined whether generalizing about a group's traits across settings polarized attitudes relative to rehearsing the same traits, and whether generalization ratings predicted post-manipulation attitudes.

Attitudes. Did generalizing make attitudes more positive than rehearsing? Table 2 shows mean attitudes from separate one-way repeated measures ANOVAs on each attitude measure after generalizing and after rehearsing. As shown on the top row of Table 2, participants adopted more positive impressions of the migrant groups after generalizing than after rehearsing, $F(1, 94) = 7.33, p = .008, \eta^2_p = .07$. There were no differences in attitudes toward admitting group members to the U.S., $F(1, 94) = .56, p = .456, \eta^2_p < .01$, but participants did express greater willingness to socialize with, $F(1, 94) = 6.23, p = .014, \eta^2_p = .06$, and marginally greater willingness to do business with, $F(1, 94) = 3.13, p = .080, \eta^2_p = .03$, migrant group members after generalizing than after rehearsing the positive initial information. When responses to the four attitude questions were averaged (generalize, $\alpha = .82$; rehearse, $\alpha = .85$), participants reported more positive combined attitudes toward the migrant groups after generalizing than after rehearsing, $F(1, 94) = 6.78, p = .011, \eta^2_p = .07$.

Table 2. Mean attitudes after generalizing versus rehearsing negative traits displayed by migrant caravan members (Experiment 2).

	Generalize		Rehearse		<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Impression	1.81	1.01	1.57	1.00	.008
Admit to U.S.	1.07	1.79	1.01	1.78	.456
Socialize with	1.65	1.51	1.42	1.67	.014
Conduct Business with	1.84	1.60	1.69	1.68	.080
Combined Attitude	1.59	1.21	1.42	1.30	.011

In line with Experiment 1's analyses, separate mixed model ANOVAs found that the effects of generalizing across settings on combined attitudes were not qualified by interactions with personality type (friendly vs. trusting), interaction $F(1, 93) = 1.69, p = .197, n^2_p < .02$, initial setting (street vs. sport), interaction $F(1, 93) = .08, p = .782, n^2_p < .01$; order (generalize first vs. rehearse first), interaction $F(1, 93) = .58, p = .448, n^2_p = .01$; or participant sex (male vs. female), interaction $F(1, 93) = .13, p = .722, n^2_p < .01$. Using linear regression analyses to predict attitude change, the effects of generalizing were not qualified by participant age, $b < .01, SE = .01, t = .55, p = .583, R^2 < .01$; education level, $b = -.02, SE = .03, t = .70, p = .485, R^2 = .01$; or social desirability, $b = .02, SE = .03, t = .80, p = .424, R^2 = .01$. There was a significant difference in the time spent generalizing versus rehearsing, $F(1, 94) = 7.05, p = .009, n^2_p = .07$, but participants spent more time rehearsing ($M = 417.89$ seconds, $SD = 212.20$ seconds) than generalizing ($M = 352.01$ seconds, $SD = 248.22$ seconds). Time spent generalizing was also not predictive of either post-generalizing attitudes, $b < .01, SE < .01, t = .15, p = .878, R^2 < .01$ or the difference in attitudes between the generalized versus rehearsed group, $b < .01, SE < .01, t = .20, p = .845, R^2 < .01$, so the effects of generalizing on attitudes could not be attributed to greater time spent generalizing than rehearsing the traits and settings.

Generalization ratings. Was attitude polarization predicted by estimated likelihood that the target group would display the same traits in very different settings? First, mean estimated likelihood was significantly above the scale mid-point, $M = 7.68$, $SD = 1.91$, one sample $t(94) = 39.13$, $p < .001$, suggesting participants estimated its likelihood as high. Also, as in Experiment 1, likelihood estimates for cross-situational consistency significantly predicted combined post-generalization attitudes, $t(94) = 3.93$, $p < .001$. The more likely generalizers said it was that caravan members would display the positive traits in additional settings, the more positive were their reported post-generalization attitudes.

Combining Experiments 1 and 2. Although we analyzed the two experiments separately, the reported effects held when analyzed together in a valence (positive vs. negative initial information) X group (generalized vs. rehearsed) mixed model ANOVA. Using all the data from Experiments 1 and 2, participants reported more extreme impressions of the group, interaction, $F(1, 190) = 19.63$, $p < .001$, $n^2_p = .09$, attitudes toward admitting caravan members to the United States, interaction, $F(1, 190) = 11.49$, $p = .001$, $n^2_p = .06$, and willingness to socialize with, interaction, $F(1, 190) = 15.45$, $p < .001$, $n^2_p = .08$, and do business with caravan members if admitted, interaction, $F(1, 190) = 10.60$, $p = .001$, $n^2_p = .05$, after generalizing than rehearsing. Finally, combined positive and negative attitudes were also more polarized after generalizing than rehearsing, interaction, $F(1, 190) = 21.54$, $p < .001$, $n^2_p = .10$.

Discussion

Experiment 2 tested whether generalizing about a group's positive traits, rather than negative traits, across settings would polarize moderately positive attitudes toward a target group. The polarization effects in Experiment 2 were the mirror image of those found in Experiment 1. Participants expressed more positive impressions of the group, and a greater willingness to socialize and do business with the group after generalizing than after rehearsing group information. Also consistent with Experiment 1, participant ratings of the likelihood that caravan members would display the given traits in the other, non-given setting, were significantly above the scale midpoint and significantly predicted post-manipulation attitudes. The higher the rated likelihood of caravan members displaying the given traits in the generalized setting, the more extreme the participant's predicted attitude.

The first and second experiments showed that generalizing from information given about a group's traits in one setting, to the likelihood of them displaying that trait in other settings, can

render attitudes more extreme, and that likelihood ratings are both unreasonably high (given empirical research on cross-situational consistency) and significantly related to attitude extremity. The first and second experiments, however, did not directly address judgments of moral character (Hartshorne & May, 1928) and did not directly address the extent to which participants might have committed the fundamental attribution error and attributed the behavior of caravan members to their moral character, deeming negative actions more indicative of caravan members' inherent dispositions than of extenuating situational circumstances. Experiment 3 addressed these issues.

Experiment 3

Method

Participants

A total of 123 U.S. MTurk workers (52 men and 71 women) participated for \$1.50 payment. Their ages ranged from 23 to 72 years old ($M = 42.41$, $SD = 12.50$, Mdn age = 38) and their years of education ranged from 10 to 26 ($M = 15.69$, $SD = 2.37$, Mdn years of education = 16). Participants were required to meet the same qualification criteria as in Experiments 1 and 2.

Procedure

Participants completed all experimental materials online using Qualtrics survey software. After collecting informed consent and initial demographic questions, all participants read the same *negative* descriptions of the fictitious groups used in Experiment 1 and completed the same generalization and rehearsal tasks. Participants then completed the same dependent measures as in Experiments 1 and 2, plus additional questions.

To assess judgments of moral character, participants were also asked to rate how likely caravan members were to lie to get into the United States from 1 = *extremely unlikely* to 9 = *extremely likely*, cheat to get into the United States from 1 = *extremely unlikely* to 9 = *extremely likely*, and steal if they were admitted to the United States from 1 = *extremely unlikely* to 9 = *extremely likely*.

To assess potential mechanisms driving the generalization effects, participants were also asked after generalizing for one group and after rehearsing for the other group, how much they felt they knew about that group's behavior from -4 = *very little more* to 4 = *a lot more*, and in how many situations they thought group members would display the observed traits from -4 = *very few* to 4 = *very many*. These two questions were included in Experiment 3, and only

Experiment 3, to assess the possibility that perceived knowledge for, and perceived consistency for the generalized group might make attitudes more extreme than for the rehearsed group.

To assess the fundamental attribution error, participants responded to seven scenarios modeled after “moral attribution” questions on the Neglect of External Demands (NED) scale (Scopoletti, et al., 2018). In each scenario, participants chose one of two causes—one dispositional and one situational—for negative behavior by each caravan’s members. The scenarios were as follows: a member did not donate to charity; got fired for being late to work; did not recycle; refused an invitation to a neighborhood party; gave a stranger misleading directions to a pharmacy; plagiarized an application for benefits; and did not pay for a hidden shopping item. Following the moral attribution questionnaire, all participants received the same suspicion check and process debriefing as in Experiments 1 and 2.

Results

Experiment 3 was designed to replicate the results of Experiments 1 and 2 regarding the effects of generalizing across settings on attitudes toward the target group, and to provide additional information on moral judgments and attributions for questionable, possibly immoral behavior.

Attitudes. Did generalizing make attitudes more negative than rehearsing? Table 3 shows mean attitudes from separate one-way repeated measures ANOVAs on each attitude measure after generalizing and after rehearsing. As shown on the top row of Table 3, participants expressed more negative impressions of the migrant groups after generalizing than after rehearsing $F(1, 122) = 5.72, p = .018, \eta^2_p = .05$, and more negative attitudes toward admitting group members to the United States, $F(1, 122) = 4.15, p = .044, \eta^2_p = .03$. There were no differences in participants’ willingness to socialize with, $F(1, 122) = 1.96, p = .197, \eta^2_p = .01$, and only marginally more negative attitudes toward doing business with, $F(1, 122) = 3.41, p = .067, \eta^2_p = .03$, migrant group members if they were admitted. As shown on the bottom row of Table 3, however, when responses to the four attitude questions were averaged (generalize, $\alpha = .89$; rehearse, $\alpha = .90$), participants reported significantly more negative combined attitudes toward a migrant group after generalizing than after rehearsing, $F(1, 122) = 4.57, p = .034, \eta^2_p = .04$.

Table 3. Mean attitudes after generalizing versus rehearsing negative traits displayed by migrant caravan members (Experiment 3).

	Generalize		Rehearse		<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Impression	-1.33	1.32	-1.02	1.32	.018
Admit to U.S.	-1.02	1.85	-.76	1.85	.044
Socialize with	-.81	2.16	-.59	2.15	.197
Conduct Business with	-.90	2.27	-.61	2.16	.067
Combined Attitudes	-1.02	1.68	-.75	1.66	.034

Separate mixed model ANOVAs found that the effects of generalizing across settings on attitude polarization were not qualified by interactions with personality type (hostile vs. mistrusting), interaction $F(1, 121) = 3.41, p = .167, \eta^2_p = .03$; initial setting (street vs. sport), interaction $F(1, 121) = 1.03, p = .313, \eta^2_p = .01$, or participant sex (male vs. female), interaction $F(1, 121) = .06, p = .806, \eta^2_p < .01$, although, different from the first two experiments, there was a significant interaction with order (generalize first vs. rehearse first), interaction $F(1, 121) = 5.09, p = .026, \eta^2_p = .04$. Participants expressed more negative attitudes when they generalized second ($M = -1.21, SD = 1.62$), than when they generalized first ($M = -.83, SD = 1.73$).

Using linear regression analyses to predict attitude change, the effects of generalizing were not qualified by interactions with age, $b = -.01, SE = .01, t = .68, p = .500, R^2 < .01$; or education level, $b = .05, SE = .06, t = .85, p = .399, R^2 = .01$. There was a significant difference in the time spent generalizing versus rehearsing, $F(1, 121) = 7.08, p = .009, \eta^2_p = .06$. As in Experiment 2, participants spent more time rehearsing ($M = 409.55$ seconds, $SD = 215.84$ seconds) than generalizing ($M = 343.22$ seconds, $SD = 227.45$ seconds), so the effects of generalizing on attitudes could not be attributed to greater time spent generalizing than rehearsing.

Generalization ratings. Was attitude polarization predicted by estimated likelihood that the target group would display the same traits in very different settings? The mean estimated likelihood was significantly above the scale mid-point, $M = 6.66$, $SD = 2.20$, one sample $t(122) = 33.57$, $p < .001$, which suggests that participants estimated a high likelihood of cross-situational consistency of group traits. Further, likelihood estimates for cross-situational consistency significantly predicted combined post-generalization attitudes, $b = -.36$, $SE = .06$, $t = -5.84$, $p < .001$. As in Experiments 1 and 2, the more likely generalizers said it was that caravan members would display the negative traits in additional settings, the more negative were their reported post-generalization attitudes.

Moral Judgments. The results for attitudes replicated the effects of generalization found in Experiments 1 and 2, as well as the relationship between attitudes and estimates that the target group would display the observed traits in additional settings. Experiment 3, however, added items designed to capture effects on moral judgments such as the likelihood that group members would lie, cheat and steal.

There were no significant main effects of generalizing on moral judgments that the group would lie to get into the U.S., $F(1, 122) = 2.33$, $p = .130$, $\eta^2_p = .02$, cheat to get into the U.S., $F(1, 122) = 1.57$, $p = .213$, $\eta^2_p = .01$, or steal if admitted to the U.S., $F(1, 122) = .26$, $p = .615$, $\eta^2_p < .01$, but further analyses revealed a significant interaction with the type of initial trait information provided to participants on all three of these moral judgments: lie interaction $F(1, 121) = 15.99$, $p < .001$, $\eta^2_p = .12$; cheat interaction, $F(1, 121) = 13.65$, $p < .001$, $\eta^2_p = .10$; steal interaction $F(1, 121) = 5.31$, $p = .023$, $\eta^2_p = .04$; combined interaction $F(1, 121) = 14.08$, $p < .001$, $\eta^2_p = .10$.

As shown in Table 4, these significant interactions occurred because generalizing resulted in more extreme moral judgments for participants given one type of initial trait information, but not the other. The top three rows show that mean ratings for lying, cheating, and stealing did not differ when participants generalized from versus rehearsed information about a group that had acted *argumentative and critical* in the initial setting. The bottom three rows show that all three ratings differed when participants generalized versus rehearsed information about a group that had acted *crafty and cunning* in the initial setting. With that type of initial trait information, participants considered it more likely that the generalized than the rehearsed group would lie to get in the U.S., $F(1, 121) = 16.24$, $p < .001$, cheat to get in the U.S., $F(1, 121) = 12.97$, $p < .001$,

and steal if they were admitted to the U.S., $F(1, 121) = 4.15, p = .043$. Combining these three moral judgments ($\alpha = .91$ generalize and $\alpha = .92$ rehearse) for all participants who received the *crafty and cunning* initial information, generalizing to other settings produced more negative moral judgments than did rehearsing the same initial information and settings, $F(1, 121) = 13.18, p < .001$. The specific negative traits in the information given may not have mattered in terms of the effects of generalizing across settings to more general attitude measures like overall impressions and willingness to socialize and do business with the group, but when it came to moral judgments about the group's tendencies to lie, cheat, and steal, the type of initial trait information mattered a great deal—possibly because information about a group's being crafty and cunning seems more relevant to judgments about their morality than does information about their being argumentative and critical.

Table 4. Mean moral judgments after generalizing versus rehearsing negative traits displayed by migrant caravan members (Experiment 3).

		Generalize		Rehearse		<i>p</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Argumentative & Critical	Lie	6.15	1.84	6.50	1.76	.127
	Cheat	6.20	1.82	6.48	1.73	.123
	Steal	5.54	1.83	5.80	1.86	.236
	Combined Moral Judgments	5.96	1.68	6.26	1.66	.111
Crafty & Cunning	Lie	7.16	1.67	6.17	1.70	>.001
	Cheat	7.02	1.52	6.30	1.50	>.001
	Steal	6.28	1.84	5.81	1.44	.043
	Combined Moral Judgments	6.82	1.68	6.09	1.55	>.001

Perceived Knowledge and Perceived Consistency. For each group, participants were asked how much they thought they knew about the group after generalizing or rehearsing, on scales from -4 = *very little more* to 4 = *a lot more*. They were also asked in how many situations that involve other people they thought the group would behave that way, on scales from -4 = *very few* to 4 = *very many*. When the generalization effect (reporting more negative attitudes toward the generalized group than the rehearsed group) was regressed simultaneously on greater perceived knowledge for the generalized group and greater perceived consistency for the generalized group, each difference score predicted the generalization effect significantly controlling for the other: overall model $F(2, 120) = 13.84, p < .001$; perceived knowledge $t(122) = -2.45, p = .016$; perceived consistency $t(122) = -2.76, p = .007$. The more participants felt like they knew more about the generalized group than the rehearsed group and perceived the generalized group as more consistent in displaying their traits, the more likely they were to report more negative combined attitudes for the generalized than for the rehearsed group.

Fundamental Attribution Error. Did participants commit the fundamental attribution error more often after generalizing than rehearsing? Separate 2 (generalize vs. rehearse) X 2 (cause for behavior: situational causes vs. dispositional causes) repeated measures ANOVAs yielded a significant main effect of cause for behavior on all seven moral attribution items: did not donate to charity, $F(1, 122) = 110.61, p < .001, \eta^2_p = .48$; fired from work, $F(1, 122) = 110.85, p < .001, \eta^2_p = .48$; did not recycle, $F(1, 122) = 65.26, p < .001, \eta^2_p = .35$; refused an invite to a neighborhood party, $F(1, 122) = 106.30, p < .001, \eta^2_p = .47$; gave a stranger misleading directions, $F(1, 122) = 49.25, p < .001, \eta^2_p = .29$; plagiarized an application for benefits, $F(1, 122) = 180.93, p < .001, \eta^2_p = .60$; and did not pay for a hidden shopping item, $F(1, 122) = 102.79, p < .001, \eta^2_p = .46$; and on the average moral attribution response, $F(1, 122) = 161.46, p < .001, \eta^2_p = .54$. In general, participants were highly likely to commit the fundamental attribution error and to attribute these negative behaviors to dispositional causes.

The ANOVA, however, yielded no significant interactions between committing the fundamental attribution error and group (generalized versus rehearsed) for any of the moral attribution questions: did not donate to charity, interaction, $F(1, 122) = .62, p = .432, \eta^2_p = .01$; fired from work, interaction, $F(1, 122) = 2.13, p = .147, \eta^2_p = .02$; did not recycle, interaction, $F(1, 122) = 1.81, p = .181, \eta^2_p = .02$; refused an invite to a neighborhood party, interaction, $F(1, 122) = .02, p = .880, \eta^2_p < .01$; gave a stranger misleading directions, interaction, $F(1, 122) = .09,$

$p = .760$, $\eta^2_p < .01$; plagiarized an application for benefits, interaction, $F(1, 122) = .97$, $p = .328$, $\eta^2_p = .01$; and did not pay for a hidden shopping item, interaction, $F(1, 122) = .44$, $p = .509$, $\eta^2_p < .01$. When responses to the moral attribution questions after participants generalized and rehearsed were averaged (generalize: disposition, $\alpha = .86$; situation, $\alpha = .82$), there was no significant interaction between committing the fundamental attribution error and generalizing versus rehearsing, $F(1, 122) < .01$, $p = .987$, $\eta^2_p < .01$. Participants were not more likely to attribute these morally questionable behaviors to dispositional rather than situational causes after generalizing than after rehearsing.

Regression analyses showed, however, that attributing greater dispositional than situational causes for morally questionable behaviors significantly predicted post-generalizing attitudes, $b = -.90$, $SE = .07$, $t = -13.70$, $p < .001$, $R^2 = .61$, and the difference between the average generalized and average rehearsed attitudes, $b = -.30$, $SE = .08$, $t = -3.63$, $p < .001$, $R^2 = .10$. The more participants attributed moral failures to a disposition of the group about which they generalized, the more negative their attitudes were toward the generalized group, and the more negative were their attitudes toward the generalized as compared to the rehearsed group.

Discussion

Experiments 1 and 2 provided initial evidence that generalizing about a group's negative or positive traits across settings can polarize attitudes toward a target group in the absence of new information. Both experiments also found that polarization likely occurs because people tend to overestimate the likelihood of the traits occurring across settings. Experiment 3 added to these findings by showing that generalizing also affected judgments of morality, in that participants considered the generalized group to be more likely to lie, cheat, and steal than the rehearsed group, but only when the initial information called the to-be-generalized group crafty and cunning, not argumentative and critical. Experiment 3 also identified two possible mechanisms driving the generalization effects: perceived knowledge about the generalized group, and perceived trait consistency. When participants believed they knew more about the generalized group than the rehearsed group, and perceived the generalized group as more consistently displaying their assigned traits, they were more likely to report more negative combined attitudes for the generalized than for the rehearsed group. Finally, participants in Experiment 3 equally overestimated dispositional relative to situational causes for the group's behavior after generalizing from and after rehearsing the initial information, but overestimating

dispositional causes predicted the effects of generalizing on final attitudes and on more extreme attitudes toward the generalized than toward the rehearsed group.

General Discussion

All three experiments showed that generalizing from a group's known traits in one setting, to the likelihood that they would express the same traits in other, distinctly different settings, can polarize attitudes. Settings meticulously identified by Barker (1968) and Kenrick and colleagues (1990) proved to be very useful in the present research. Despite their research showing that different environmental settings involve distinct trait dimensions and constraints, participants in all three experiments seemed to find it easy to generalize about the group's traits across settings, as suggested by their high probability estimates (see also Asch & Zukier, 1984). These probability estimates, in turn, predicted attitude polarization, suggesting that attitudes can be influenced both by actual information and by "information" that is only imagined.

The present findings extended previous research showing that imagining and explaining hypothetical events can make them seem factual (Anderson, Lepper & Ross, 1980; Campbell & Fairey, 1985; Carroll, 1978; Gregory, Cialdini, & Carpenter, 1982; Sherman, Skov, Hervitz, & Stock, 1981). Previous research has demonstrated this effect with other types of hypothetical or imaginary events (Koehler, 1991), and has specifically examined the relationship between stereotypes and imagining or explaining events (Slusher & Anderson, 1987), but not with hypothetical scenarios about the likelihood of a group displaying specific personality traits across settings.

The present results might be viewed as consistent with previous research showing that self-generated information is particularly salient compared to experimenter-provided information (Slamecka & Graf, 1978), or that self-generated thoughts can be easily confused with actual perceptions (Johnson & Raye, 1981; Johnson, Hashtroudi, & Lindsay 1993). Imagining group members displaying the traits in different settings might have also made these imagined thoughts readily available when participants subsequently evaluated the group (Tversky & Kahneman, 1973).

Consistent with previous research, participants displayed a strong bias in Experiment 3 toward dispositional over situational inferences on items modeled after the NED scale (Scopoletti, et al., 2018). They did not, however, display a stronger bias after generalizing than after rehearsing. This lack of an experimental effect most likely occurred because correspondent

inferences are extremely difficult to manipulate (Gilbert & Malone, 1995) and transpire across a wide range of demographic characteristics and cultures (Bauman & Skitka, 2010; Lieberman, Jarcho, & Obayashi, 2005). Greater correspondence bias for the generalized than the rehearsed group did, however, significantly predict more negative attitudes toward the generalized than the rehearsed group.

The results of Experiment 3 were also consistent with previous theory and research on perceptions of cross-situational consistency in behaviors indicative of moral character. Participants thought members of the generalized group were more likely than members of the rehearsed group to lie, cheat, and steal, albeit only if the initial information said they were crafty and cunning, not argumentative and critical, but they did not make different moral attributions on items similar to the NED scale (Scopoletti, et al., 2018). The moral judgment scenarios used in the present experiment involved the same types of behaviors used by Hartshorne and May (1928) to investigate what they called “moral character,” but those researchers were concerned only with cross-situational consistency by participants, not with whether initial information would bias the conclusions that observers might draw about the participants.

The findings of all three experiments replicated and extended Tesser’s (1978) program of research on thought-induced attitude polarization in the absence of new information. Instead of instructing participants simply to think about the groups, we gave participants explicit instructions to go beyond the information given, and to do so by considering the likelihood of cross-situational consistency. The present results also extended Tesser’s findings by showing that the effects of self-generated thoughts can polarize attitudes toward entire groups, not just toward individuals, because groups can also become associated with specific “personalities” (Fiske, 1998; Cuddy, Fiske & Glick, 2007; Allport, 1954).

The present results were also consistent with and extended construal theories of attitude change (Lord & Lepper, 1999; Schwarz, 2006, 2007; Schwarz & Bohner, 2001; Smith & DeCoster, 2000; Tourangeau, 1992; Wilson & Hodges, 1992), which hold that people usually evaluate attitude objects in line with associations that are salient at the moment, rather than by relying entirely on remembered past evaluations of the same attitude object. Experiment 3’s significant trait X group interaction for moral judgments, however, suggests that people do not construct evaluations entirely on the valence of activated associations, but also by the relevance of those associations to the judgment at hand. These results suggest adding a second step to

attitude construal theories wherein activated associations, which Kahneman (2011) characterized as a “mental shotgun,” must seem relevant before they inform subsequent judgments (see also Loersch & Payne, 2011, on situated inferences from concepts activated by primes).

Experiments 1 and 2 showed that participants who thought it most likely that the group would display the same negative (positive) traits in different settings were also the most likely to report more negative (positive) attitudes toward the generalized than toward the rehearsed group. These results, however, were entirely correlational. Neither experiment manipulated likelihood estimates, so these results suggested but did not test possible mechanisms for the effects. The results of Experiment 3 showed that participants who committed more of the fundamental attribution error were also the most likely to report more negative attitudes toward the generalized than toward the rehearsed group. Participants did not commit more of the fundamental attribution error in subsequent moral judgments of the generalized than the rehearsed group, however, suggesting that the fundamental attribution error does not, in itself, mediate the relationship between generalization and attitude polarization.

Experiment 3 supported two possible meta-cognitive mechanisms with correlational evidence. Participants who believed they knew more about the generalized group than the rehearsed group did not, objectively, have any greater information about one group than the other, and yet the more they felt like they knew more about the generalized group, the more likely they were to evaluate the generalized group more extremely than the rehearsed group. Further, participants who thought the generalized group displayed the given traits more consistently than did the rehearsed group had no objective information for this conclusion, and yet the more they believed it, the more likely they were to evaluate the generalized group more extremely than the rehearsed group. Clearly, other meta-cognitive contributors, like confidence in the initial information (Dunlosky & Tauber, 2016), perceived ease of generating examples (Schwarz, 2010), and a feeling that the generalized group displayed the traits through “stronger” or more diagnostic behaviors (Carlston, 2013), need to be investigated, as do experimental manipulations of these meta-cognitive factors.

Limitations and Future Directions

To our knowledge, the present experiments were the first to examine the effects of generalizing personality traits across environmental settings on attitude polarization, and as with any new research program, there are both limitations and promising future directions. The

present results were limited in that all three experiments had participants generalize only to business and miscellaneous settings, a setting category (Kenrick et al., 1990; Schutte, Kenrick, & Sadalla, 1985) that was never included in the initial information. Although the primary goal of the current research was to establish that generalizing about a group's traits across settings can polarize attitudes without new information, future studies should investigate whether settings generalized from and generalized to are interchangeable.

Similarly, the present findings used the same two personality trait dimensions across all three experiments: one that represents hostile and friendly, and the other that represents trusting and mistrusting on Kiesler's (1983) Interpersonal Circle. Kenrick and colleagues (1990) reported significant trait X setting interactions, in which traits differed in how visible they were to observers in different settings. Future studies might examine whether the effects of generalizing across settings on attitudes might depend on the extent to which the traits involved are highly visible to observers, and therefore easy to imagine (Kirby & Gardner, 1972; Mischel, 1973).

It is also worth noting that all three experiments had participants both rate the likelihood that group members would display the same traits in other settings, and generate an example detailing how the group members would do so. We modeled our procedure after Anderson and colleagues (1980), but those investigators found greater effects of belief perseverance when participants explained their likelihood ratings than when they did not explain. Although our research topics differed, generating an example for how a target group might express specific personality traits across settings is not the same as explaining the reason behind one's likelihood rating. Generating examples might still be vital to the effects of generalizing on attitude polarization—a possibility that can be examined by having some participants rate the likelihood of the group displaying the trait in additional settings, but not generate examples.

Possible Applications

The current research has important real-world applications worth considering. First, we chose to use migrant caravans as the attitude objects in our experiments, because attitudes toward these groups were closely tied with attitudes toward immigration in a heated current controversy within the United States. Although we chose to focus on self-generated thoughts in attitudes toward migrant caravans, the self-generated attitude change found in the current experiments might apply to outgroups or disliked groups more generally. Similar results might be obtained, for example, if people viewed equally negative information about the prosecution and the

defense teams in President Trump's impeachment trial. If each legal team was presented as a group with their own moderately positive or negative traits, participants who generalized to additional settings for one group, but not the other, might polarize their own attitudes toward the generalized legal team.

There might also be more serious applications worth considering, such as the role of self-generated attitude change in hate crimes. The number of lone wolf mass shootings in America has escalated to the point that gun violence has been considered by many as a public health crisis (Bauchner, Rivara, Bonow, 2017). Many of these shooters targeted very specific social groups, such as African Americans attending church, patrons at an LGBTQ nightclub, worshippers at a Jewish synagogue, or Hispanics shopping at Walmart. Although these attackers might have viewed inflammatory information online that informed their attitudes, the current results suggest they might also have polarized their own attitudes, in the absence of new information, by engaging in thought processes that went beyond the information available, even in extreme online websites. In this case, simply thinking might have contributed to these unthinkable crimes.

References

- Abelson, R. P., & Rosenberg, M. J. (1958). Symbolic psycho-logic: A model of attitudinal cognition. *Behavioral Science*, 3, 1–13. <https://doi.org/10.1002/bs.3830030102>
- Allport, G. W. (1954). *The nature of prejudice*. Oxford: Addison-Wesley.
- Altmire, J. (2017). *Dead center: How political polarization divided America and what we can do about it*. Mechanicsburg, PA: Sunbury Press.
- Anderson, N. H. (1968). Likableness ratings of 555 personality-trait words. *Journal of Personality and Social Psychology*, 9(3), 272–279. doi: 10.1037/h0025907
- Anderson, C. A., Lepper, M. R., & Ross, L. (1980). Perseverance of social theories: The role of explanation in the persistence of discredited information. *Journal of Personality and Social Psychology*, 39(6), 1037–1049. <https://doi.org/10.1037/h0077720>
- Arkes, H. R. (1991). Costs and benefits of judgment errors: Implications of debiasing. *Psychological Bulletin*, 110, 486–498.
- Asch, S. E., & Zukier, H. (1984). Thinking about persons. *Journal of Personality and Social Psychology*, 46(6), 1230–1240. <https://doi-org.ezproxy.tcu.edu/10.1037/0022-3514.46.6.1230>
- Barker, R. (1963). On the nature of the environment. *Journal of Social Issues*, 19(4), 17-38.
- Barker, R. G. (1968). *Ecological Psychology: Concepts and Methods for Studying the Environment of Human Behavior*. Stanford, California: Stanford University Press.
- Bauchner, H., Rivara, F. P., & Bonow, R.O. (2017). Death by gun violence: A public health crisis. *JAMA Psychiatry*, 74(12), 1195–1196. doi:10.1001/jamapsychiatry.2017.3616
- Bauman, C. W. & Skitka, L. J. (2010). Making attributions for behavior: The prevalence of correspondence bias in the general population. *Basic and Applied Social Psychology*, 32, 269 – 277. DOI: 10.1080/01973533.2010.495654
- Bruner, J. (1973). *Going beyond the information given*. New York: Norton.
- Campbell, J. D., & Fairey, P. (1985). Effects of self-esteem, hypothetical explanations, and verbalization of expectancies on future performance. *Journal of Personality and Social Psychology*, 48(5), 1097–1111. <https://doi.org/10.1037/0022-3514.48.5.1097>
- Carlston, D. (2013). *The Oxford handbook of social cognition*. Oxford University Press. doi: 10.1093/oxfordhb/9780199730018.001.0001
- Carroll, J. S. (1978). The effect of imagining an event on expectations of the event: An interpretation in terms of the availability heuristic. *Journal of Experimental Social Psychology*, 14, 88-96.

- Cosmides, L., & Tooby, J. (1996). Are humans good intuitive statisticians after all? Rethinking some conclusions from the literature on judgment under uncertainty. *Cognition*, *58*(1), 1–73.
[https://doi.org/10.1016/0010-0277\(95\)00664-8](https://doi.org/10.1016/0010-0277(95)00664-8)
- Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, *24*(4) 349-354. doi: 10.1037/h0047358
- Cuddy, A. J. C., Fiske, S. T., & Glick, P. (2007). The BIAS map: Behaviors from intergroup affect and stereotypes. *Journal of Personality and Social Psychology*, *92*(4), 631–648. doi: 10.1037/0022-3514.92.4.631
- Dunlosky, J. & Tauber, S. K. (Eds.). (2016). *The Oxford handbook of metamemory*. New York: NY: Oxford University Press.
- Fiske, S. T. (1998). Stereotyping, prejudice, and discrimination. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology.*, Vols. 1-2, 4th ed. (pp. 357–411). New York, NY: McGraw-Hill.
- Friedrich, J. (1993). Primary error detection and minimization (PEDMIN) strategies in social cognition: A reinterpretation of confirmation bias phenomena. *Psychological Review*, *100*, 298–319.
- Gilbert, D. T., & Malone, P. S. (1995). The correspondence bias. *Psychological Bulletin*, *117*(1), 21–38.
<https://doi.org/10.1037/0033-2909.117.1.21>
- Gregory, W. L., Cialdini, R. B., & Carpenter, K. M. (1982). Self-relevant scenarios as mediators of likelihood estimates and compliance: Does imagining make it so? *Journal of Personality and Social Psychology*, *43*(1), 89–99. <https://doi.org/10.1037/0022-3514.43.1.89>
- Hartshorne, H., & May, M. A. (1928). *Studies in the nature of character: Vol. 1. Studies in deceit*. New York: Macmillan.
- Haselton, M. G., & Buss, D. M. (2000). Error management theory: A new perspective on biases in cross-sex mind reading. *Journal of Personality and Social Psychology*, *78*, 81–90.
- Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.
- Hogarth, R. M. (1981). Beyond discrete biases: Functional and dysfunctional aspects of judgmental heuristics. *Psychological Bulletin*, *90*, 197-217.
- Johnson, M. K., Hashtroudi, S., & Lindsay, D. S. (1993). Source monitoring. *Psychological Bulletin*, *114*, 3-28. doi: 10.1037/0033-2909.114.1.3
- Johnson, M. K., & Raye, C. L. (1981). Reality monitoring. *Psychological Review*, *88*, 67-85. doi: 10.1037/0033-295X.88.1.67

- Jones, E. E., & Davis, K. E. (1965). From acts to dispositions: The attribution process in person perception. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 2, pp. 219-266). San Diego, CA: Academic Press.
- Kahneman, D. (2011). *Thinking, fast and slow*. Farrar, Straus and Giroux.
- Kenrick, D. T., McCreath, H. E., Govern, J., King, R., & Bordin, J. (1990). Person-environment intersections: Everyday settings and common trait dimensions. *Journal of Personality and Social Psychology*, *58*(4), 685–698. <https://doi.org/10.1037/0022-3514.58.4.685>
- Kiesler, D. J. (1983). The 1982 Interpersonal Circle: A taxonomy for complementarity in human transactions. *Psychological Review*, *90*(3), 185–214. doi: 10.1037/0033-295X.90.3.185
- Kirby, D. M., & Gardner, R. C. (1972). Ethnic stereotypes: Norms on 208 words used in their assessment. *Canadian Journal of Psychology*, *26*, 140-154.
- Klein, E. (2020). *Why we're polarized*. New York: Avid Reader Press.
- Koehler, D. J. (1991). Explanation, imagination, and confidence in judgment. *Psychological Bulletin*, *110*(3), 499–519. <https://doi.org/10.1037/0033-2909.110.3.499>
- Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin*, *108*(3), 480–498. <https://doi.org/10.1037/0033-2909.108.3.480>
- Lieberman, M., Jarcho, J. M., & Obayashi, J. (2005). Attributional inference across cultures: Similar automatic attributions and different controlled corrections. *Personality and Social Psychology Bulletin*, *31*(7), 889-901. <https://doi.org/10.1177/0146167204274094>
- Loersch, C., & Payne, B. K. (2011). The situated inference model: An integrative account of the effects of primes on perception, behavior, and motivation. *Perspectives on Psychological Science*, *6*(3), 234–252. <https://doi.org/10.1177/1745691611406921>
- Lord, C. G., & Lepper, M. R. (1999). Attitude representation theory. *Advances in experimental social psychology*, *31*, 265-343. doi.org/10.1016/S0065-2601(08)60275-0
- Lord, C. G., Ross, L., & Lepper, M. R. (1979). Biased assimilation and attitude polarization: The effects of prior theories on subsequently considered evidence. *Journal of Personality and Social Psychology*, *37*, 2098–2109.
- Lord, C. G., & Taylor, C. A. (2009). Biased assimilation: Effects of assumptions and expectations on the interpretation of new evidence. *Social and Personality Psychology Compass*, *3*(5), 827-841. doi: 10.1111/j.1751-9004.2009.00203.x
- McCarty, N. (2019). *Polarization: What everyone needs to know*. New York: Oxford University Press.

- McKay, R., & Dennett, D. (2009). The evolution of misbelief. *Behavioral and Brain Sciences*, 32(6), 493-510. doi:10.1017/S0140525X09990975
- Millar, M. G., & Tesser, A. (1986). Thought-induced attitude change: The effects of schema structure and commitment. *Journal of Personality and Social Psychology*, 51(2), 259–269. doi: 10.1037/0022-3514.51.2.259
- Mischel, W. (1968). *Personality and assessment*. New York, NY: Wiley.
- Mischel, W. (1973). Toward a cognitive social learning reconceptualization of personality. *Psychological Review*, 80(4), 252–283. <https://doi.org/10.1037/h0035002>
- Nisbett, R. E., & Ross, L. (1980). *Human inference: Strategies and shortcomings of social judgment*. Englewood Cliffs, NJ: Prentice Hall.
- Olson, J. M., Roese, M. J., & Zanna, M. P. (1996). Expectancies. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 211–238). New York: Guilford Press.
- Parsons, K. & Donehoo, P. N. (2019). *Polarized: The collapse of truth, civility, and community in divided times and how we can find common ground*. Prometheus Books.
- Price, R. H., & Blashfield, R. K. (1975). Explorations in the taxonomy of behavior settings: Analysis of dimensions and classification of settings. *American Journal of Community Psychology*, 3, 335-351.
- Ross, L. (1977). The intuitive psychologist and his shortcomings: Distortions in the attribution process. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 10, pp. 173–220). New York, NY: Academic Press.
- Ross, L., Lepper, M. R., & Hubbard, M. (1975). Perseverance in self-perception and social perception: Biased attributional processes in the debriefing paradigm. *Journal of Personality and Social Psychology*, 32(5), 880–892. <https://doi.org/10.1037/0022-3514.32.5.880>
- Sadler, O., & Tesser, A. (1973). Some effects of salience and time upon interpersonal hostility and attraction during social isolation. *Sociometry*, 36, 99-112. doi: 10.2307/2786285
- Scopelliti, I., Min, H. L., McCormick, E., Kassam, K. S., & Morewedge, C. K. (2018). Individual differences in correspondence bias: Measurement, consequences, and correction of biased interpersonal attributions. *Management Science*, 64, 1879–1910.
- Sides, J. & Hopkins, D. J. (2015). *Political polarization in American politics*. New York: Bloomsbury Academic.

- Slamecka, N. J., & Graf, P. (1978). The generation effect: Delineation of a phenomenon. *Journal of Experimental Psychology: Human Learning and Memory*, 4(6), 592–604.
<https://doi.org/10.1037/0278-7393.4.6.592>
- Schutte, N. S., Kenrick, D. T., & Sadalla, E. K. (1985). The search for predictable settings: Situational prototypes, constraint, and behavioral variation. *Journal of Personality and Social Psychology*, 49(1), 121–128. <https://doi.org/10.1037/0022-3514.49.1.121>
- Schwarz, N. (2006). Attitude research: Between Ockham's razor and the fundamental attribution error. *Journal of Consumer Research*, 33, 19-21.
- Schwarz, N. (2007). Attitude construction: Evaluation in context. *Social Cognition*, 25, 638-656. doi: 10.1521/soco.2007.25.5.638
- Schwarz, N. (2010). Meaning in context: Metacognitive experiences. In B. Mesquita, L. F. Barrett, & E. R. Smith (eds.), *The mind in context* (pp. 105 -125). New York: Guilford
- Schwarz, N., & Bohner, G. (2001). The construction of attitudes. In A. Tesser & N. Schwarz (Eds.), *Blackwell handbook of social psychology: Intraindividual processes* (pp. 436–457). Malden, MA: Blackwell Publishers.
- Sherman, S. J., Skov, R. B., Hervitz, E. F., & Stock, C. B. (1981). The effects of explaining hypothetical future events: From possibility to probability to actuality and beyond. *Journal of Experimental Social Psychology*, 17(2), 142–158. [https://doi.org/10.1016/0022-1031\(81\)90011-1](https://doi.org/10.1016/0022-1031(81)90011-1)
- Sherman, S. J., Zehner, K. S., Johnson, J., & Hirt, E. R. (1983). Social explanation: The role of timing, set, and recall on subjective likelihood estimates. *Journal of Personality and Social Psychology*, 44(6), 1127–1143. <https://doi.org/10.1037/0022-3514.44.6.1127>
- Slusher, M. P., & Anderson, C. A. (1987). When reality monitoring fails: The role of imagination in stereotype maintenance. *Journal of Personality and Social Psychology*, 52(4), 653–662. <https://doi.org/10.1037/0022-3514.52.4.653>
- Smith, E. R., & DeCoster, J. (2000). Dual-process models in social and cognitive psychology: Conceptual integration and links to underlying memory systems. *Personality and Social Psychology Review*, 4(2), 108–131. https://doi.org/10.1207/S15327957PSPR0402_01
- Tesser, A. & Leone, C. (1977). Cognitive schemas and thought as determinants of attitude change. *Journal of Experimental Social Psychology*, 13, 340-356. doi: 10.1016/0022-1031(77)90004-X.

- Tesser, A. (1978). Self-generated attitude change. In L. Berkowitz (Vol. Ed.), *Advances in experimental social psychology*. Vol. 11. (pp. 289–338). New York, NY: Academic Press. doi: 10.1016/S0065-2601(08)60010-6
- Tesser, A., & Cowan, C. L. (1975). Thought and number of cognitions as determinants of attitude change. *Social Behavior and Personality*, 3, 165–173. doi: 10.2224/sbp.1975.3.2.165
- Tesser, A., & Cowan, C. L. (1977). Some attitudinal and cognitive consequences of thought. *Journal of Research in Personality*, 11, 216–226. doi: 10.1016/0092-6566(77)90018-6
- Tourangeau, R. (1992). Context effects on response to attitude surveys: Attitudes as memory structure. In N. Schwartz & S. Sudman, (Eds.) *Context Effects in Social and Psychological Research* (pp. 35–48). New York, NY: Springer
- Tversky, A., & Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. *Cognitive Psychology*, 5(2), 207-232. doi: 10.1016/0010-0285(73)90033-9
- Vranas, P. B. M. (2009). Against moral character evaluations: The undetectability of virtue and vice. *J Ethics*, 13, 213–233. <https://doi.org/10.1007/s10892-009-9049-z>
- Wilson, T. D., & Hodges, S. D. (1992). Attitudes as temporary constructions. In L. L. Martin & A. Tesser (Eds.), *The construction of social judgments* (pp. 37-65). Hillsdale, NJ, US: Lawrence Erlbaum Associates, Inc.

VITA

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ABSTRACT

GENERALIZING TRAITS ACROSS SETTINGS CAN POLARIZE ATTITUDES TOWARD SOCIAL GROUPS IN THE ABSENCE OF NEW INFORMATION

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Previous research has shown that attitudes can polarize in response to new information that is objectively neutral, or even without new information, through mere thought. The present studies tested whether one specific type of thought—generalizing from knowledge that a group displayed specific personality traits in one type of setting to their trait-relevant behavior in additional settings—might polarize attitudes toward that group. We gave participants in three experiments initial information about (fictitious) migrant caravans who wanted to enter the United States. The initial information concerned traits the group displayed in a specific type of setting. Participants thought it highly likely the group’s traits would generalize to additional settings. Compared to rehearsing the information given, generalizing polarized both negative (Experiment 1) and positive (Experiment 2) impressions, opposition to admitting the group into the U. S., willingness to socialize with its members, and willingness to do business with them. Generalizing from negative information also affected judgments that the group would engage in immoral behaviors (Experiment 3). The results support construal theories of attitudes and may be applicable to real world instances of self-radicalization.