

# Applying the Value of Equality Unequally: Effects of Value Instantiations That Vary in Typicality

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Across 4 experiments, the authors investigated the role of value instantiation in bridging the gap between abstract social values and behavior in specific situations. They predicted and found that participants engaged in more egalitarian behavior (point allocation using the minimal group paradigm) after contemplating a typical instantiation of the value of equality compared to an atypical instantiation or a control condition that simply made the value salient. This effect occurred when participants generated reasons for valuing equality in the instantiation (Experiment 1) and when participants merely read about hypothetical examples of the instantiation context (Experiments 2, 3, and 4). Results across experiments indicated that the effect of prior instantiations was not mediated by changes in the abstract value; instead, the process of applying the abstract value was crucial (Experiment 4). Together, the experiments show that the process of applying an abstract value to a specific situation can be influenced by seemingly unrelated prior episodes.

*Keywords:* social values, typicality, discrimination, fairness, equality

When your values are clear to you, making decisions becomes easier.  
—Roy Disney (2005)

This quotation suggests that values are important guides in life: When people are clear about their values, they are able to make decisions with a degree of ease because of the guidance that their values provide. This notion has been the foundation of a long line of social psychological research on values, beginning with Allport, Vernon, and Lindzey's (1960) classic description of value types (theoretical, economic, aesthetic, social, political, and religious). Rokeach (1973) later provided an important theoretical and empirical analysis of values, focusing on the general impact of values across contexts and situations. More recently, Schwartz (1992, 1996) has shown cross-cultural support for motivational conflicts and compatibilities between diverse values.

Across these programs of study, social values have been regarded as abstract *trans-situational goals* that serve as guiding principles in people's lives and represent universal requirements of human existence, including biological, social, and group survival goals (Schwartz, 1992; Schwartz & Bilsky, 1987). Indeed, values are distinguished from other psychological constructs, such as attitudes (e.g., Eagly & Chaiken, 1998) and social norms (e.g., Sheeran, Norman, & Orbell, 1999) by their role as important, prescriptive principles that guide decision making. Supporting this notion, there is evidence that values guide attitudes and behavior across diverse contexts (Homer & Kahle, 1988; Maio & Olson, 1994; Rokeach, 1973; Schwartz, 1996; see also Olson & Zanna, 1993), while serving as standards by which people can judge the

valence of attitude objects, their own actions, and the actions of others (Feather, 1995; Rohan, 2000; Verplanken & Holland, 2002). Values can provide this broad guidance across a wealth of widely differing situations because they are abstract principles or rules that develop with experience (Rokeach, 1973).

The next step is to explain the processes through which values influence behavior. To bring a value to bear in a specific situation, the gap from the abstract representation of the value to the concrete representation of the situation must be bridged. Specifically, the situation must be recognized as a potential instantiation of the general value principle, that is, recognized as the kind of situation to which the value applies. This task is far from trivial, and the processes that underlie this bridging between abstract value and specific situation have not been addressed.

For example, applying the value of equality to a concrete situation requires first of all that some quantity is recognized as being potentially unequal. Yet not all inequalities are value relevant, and most probably are not. Observing two speakers, we may notice that one is taller than the other, one's hair is longer than the other's, one is more physically attractive, and so on. However, these differences are not likely to be construed as relevant to the importance of equality as a value, unless perhaps there are inequalities of worth or outcome. For example, if one of the two speakers is awarded surprisingly more applause than the other, we might start to wonder about the value of equality. At this point, however, the task of bringing the value to bear has only begun. The crucial question we face is whether the applause should have actually been equal. There could be numerous reasons why the differential treatment is justified (e.g., one speaker was more informative). Furthermore, other values, such as the need to support the weak or disenfranchised, could also be relevant and oppose a decision based on equality in the given context. Indeed, explicit examples of these difficulties can be found in the complex judicial explanations of legal decisions involving fundamental values and rights,

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whether these be equality, freedom, or the sanctity of life (e.g., Conte, Davidson, & Burchill, 2004). By contrast, much value-guided behavior in day-to-day life may involve tacit mental processes. Nevertheless, the same bridging task has to be achieved in both cases, and there is no prior evidence about the nature of these mental processes.

Elucidating these processes is necessary for an understanding of where values are applied and where they are avoided. Individuals must instantiate a value to be able to relate it to the context in which it appears, and the specific instantiation within that context might influence the subsequent application of that value. For example, without imagining specific negative and positive impacts of antiterrorism measures on people's freedom, the value of freedom cannot be brought into one's evaluation of such policies.

Crucially, the abstract nature of values allows them to be instantiated in diverse ways, and this enables people to use or bypass their values if they are seen to have an ill fit to the situation. For example, some people view abortion as an instantiation of the value of sanctity of life, but these same people may not see capital punishment as instantiating the value (and vice versa). Similarly, an individual may perceive equality as a requirement to treat diverse ethnic groups and men and women in the same manner but fail to perceive equality in the issue of discrimination against people who differ in other characteristics (e.g., height, weight, or handedness). The issues surrounding the application of abstract values to specific behaviors have not been widely recognized in debates about value-relevant issues. The goal of the present research was to investigate the processes of value application by examining potential effects from one application context to the next. Specifically, we examined effects of value instantiations on subsequent behavior for a different instantiation of that value—a question that had never been previously examined. Examination of this question may reveal vital evidence about the nature of value use.

### The Importance of Value Instantiation

Although past evidence has revealed that the contemplation of conflicting values increases the complexity of reasoning about an issue (Tetlock, 1986), this research did not directly examine value instantiation per se. The most pertinent evidence has related to the effects of elaborate versus nonelaborate value representations on behavior. Specifically, Maio, Olson, Allen, and Bernard (2001) found that elaborating the argumentative reasons for a value increased participants' subsequent pro-value behavior. In one of their experiments, participants were asked to list reasons for the value of equality. Next, in an ostensibly distinct study, participants were asked to allocate points to two teams: their own team and another team. Despite having received substantial incentives to act in a discriminatory manner, participants who had considered reasons for the value of equality and rated its importance subsequently behaved in a significantly more egalitarian fashion than participants who had only been given the opportunity to rate its importance. Moreover, Maio et al. predicted and found that the elaboration of cognitive support did not affect behavior by increasing the personal importance of the value or by increasing the accessibility of the value from memory. Instead, they proposed that the elaboration of reasons for a value helps because it generates more concrete instantiations. Consistent with this hypothesis,

participants who listed more instantiations of a value (e.g., describing affirmative action in the workplace) among their reasons exhibited more pro-value behavior than participants who did not list such instantiations. This finding provided initial evidence of the importance of value instantiation for value use. However, the research did not directly examine effects of different types of instantiations.

We expected that two equally concrete instantiations within a context might nevertheless have substantially different subsequent effects. One such content factor that might moderate the effect of instantiations is whether these instantiations were typical or atypical for that value. Typicality is of special relevance because it has a long history within psychology, in particular cognitive psychology, where typicality of instantiation has played a fundamental role in theories of conceptual structure. Typical instantiations are generally defined as those that are more accessible in memory as frequent examples of a concept; they may also be closer to the central tendency for the concept and closer to ideals (Barsalou, 1987). Research has found that typical instantiations (e.g., robin) of a concept (e.g., bird) are categorized faster (e.g., Heinze, Munte, & Kutas, 1998; for a review, see Smith & Medin, 1981) and are more likely to be mentioned first when participants are asked to list all members of a category (Battig & Montague, 1969). Similarly, typical instantiations are verified more quickly and elicit lower brain activity than atypical instances and nonmembers of a category (Stuss, Sarazin, Leech, & Picton, 1983). Furthermore, Rosch (1973) found that typical instances of a category are more likely to serve as cognitive reference points than atypical instantiations. For example, people are more likely to say that "a raven [atypical] is like a blackbird [typical]" than to say that "a blackbird [typical] is like a raven [atypical]." Within social psychology, Lord and colleagues (e.g., Lord, Desforages, Fein, Pugh, & Lepper, 1994; Lord, Desforages, Ramsey, Trezza, & Lepper, 1991) provided convincing evidence that typicality of instantiation has an impact on attitudes and behavior. For example, people are more likely to be influenced by their social category attitudes in their interactions with typical category members than with atypical category members.

Evidence for a role of typicality in the context of social values would be important because, until now, the dominant view has been that values are trans-situational guiding principles that influence subsequent behavior on a higher level than the individual situation (Bardi & Schwartz, 2003; Schwartz, 1992). If this is the case, the typicality of prior instantiation should not matter, or, with a more liberal interpretation of this view, different instantiations would operate through their impact on the emergent properties of the abstract value, such as its importance and centrality. However, if the typicality of a value instantiation does affect subsequent behavior and operates independently of changes in the abstract principle, it would be clear that the instantiations per se are of particular importance to theorizing about values and their effects. This result would be of theoretical importance because it makes clear that the whole process of value application requires detailed attention in a way that has not previously been scrutinized (cf. Seligman & Katz, 1996).

Thus, the primary aim of our research was to test if the typicality of a value instantiation affects subsequent behavior. This aim is important by itself because it can be counterintuitive that the instantiation of a value in one context can affect the application of

the value in a subsequent, different context. For instance, would people treat a novel immigrant group more equally after recently thinking about equality between men and women than after thinking about equality between right-handers and left-handers (an atypical instantiation of the value)? The idea that value-guided behavior is influenced by previous episodes that differ only in typicality would seem to have implications for understanding the rationality of people's value-based behavior and consequences for a variety of applied contexts. Consequently, any demonstration of such an effect is important.

Even though our proposal is counterintuitive in some regards, there are several ways in which an effect of typicality might occur. Figure 1 outlines three logically possible pathways. Pathway A involves a direct impact of the instantiation on the abstract value and, through that, on behavior; in other words, something about the value itself, such as its importance or availability, is altered, and this change affects the subsequent situation. This is the premise of much of the extant literature. In contrast, Pathway B is a direct route between situations that does not involve representations of the value itself. That is, one situation can be used as an analogy for understanding the next situation, without application of the abstract principle. Consistent with this proposal, studies of cognitive reasoning have revealed that people often avoid reasoning about abstractions (e.g., Griggs & Cox, 1982) and prefer to use specific examples or instances when making judgments (e.g., Johnson-Laird, Legrenzi, & Sonino-Legrenzi, 1972).

Pathway C is based not on analogical reasoning or on changes to properties of the value itself but on the process by which the value is applied to a new situation or behavior (minimal group

discrimination in the current experiments). This process reflects the spontaneous application of a value to a new situation, independent of its accessibility. In theory, typical instantiations of a value may have a greater chance of eliciting value application because they are more central in mental representations of the value than atypical representations. The centrality of the typical instantiation (e.g., discrimination against women) should make it more likely that elements of the new situation are processed in relation to features of the instantiated value concept (e.g., equality) because spread of activation from the typical instantiation remains close to the concept. In contrast, spread of activation from the peripheral, atypical instantiation (e.g., discrimination against left-handers) would just as easily lead to thinking about unrelated concepts (e.g., dexterity, sports) as to thinking about the concept that was used in the instantiation (equality). As a result, it should be more likely that people spontaneously construe a new situation in a manner reflecting the value concept after a typical instantiation than after an atypical one (even though the value can remain important and accessible in both cases).

This emphasis on a role of construal extends Bruner's (1957) seminal examination of values and perceptual readiness. From our perspective, a typical instantiation may make people more perceptually ready to see a value in a subsequent situation because typical instantiations are more central in representations of a concept. Participants may be more likely to construe a subsequent situation as being relevant to the value that was given the typical instantiation. The centrality of the typical instantiation may make it more likely that bottom-up construal will detect features of the subsequent situation that make it relevant to the mental representation of the value as a whole, in the same manner as one can become perceptually ready to see any category or concept that has been primed by a typical exemplar.

## Overview of Experiments

In the following four experiments, we investigated whether the typicality of a value instantiation influences behavior promoting the value. In the first three experiments, participants considered the value instantiation in what we told them was the first study, and the effect of the instantiations on their behavior was measured in an ostensibly separate, entirely unrelated, behavioral decision-making task. Building on a design used by Maio et al. (2001), Experiment 1 tested whether the contemplation of arguments for and against a value is more likely to elicit pro-value behavior when people's contemplation occurs in the context of a typical instantiation of the value. In contrast, Experiment 2 did not elicit reasons for values but simply examined the effects of exposure to descriptions of typical and atypical instantiations of the value. Experiment 3 used different typical and atypical instantiations to test the generality of the effect, and it examined potential influences of associated affective support and normative pressures on subsequent behavior. Experiment 4 focused more closely on the viability of the analogical reasoning and value application mechanisms (Pathways B and C). Together, these experiments fulfilled our primary goal, which was to determine whether there is a robust effect of typicality in value instantiations. As a secondary goal, they explored the potential mechanisms through which this effect may occur (Pathways A, B, and C).

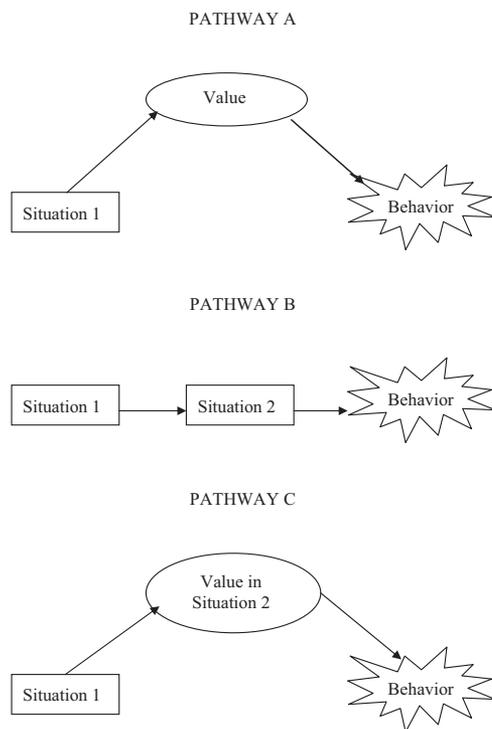


Figure 1. Potential pathways for an impact of value instantiation on behavior.

To establish comparable experimental control, all of the studies focused on instantiations supporting the value of equality. This value was selected because of its importance to many social psychological theories (e.g., Katz & Hass, 1988; Tyler, 2000) on a variety of topics (e.g., justice, prejudice, relative deprivation), its importance to the most influential models of values (Rokeach, 1973; Schwartz, 1992), and its fundamental importance to the global discourse about universal human rights (Conte et al., 2004). Because we wanted to make the instantiations as relevant as possible, we used pilot testing to select a single situation that had high perceived relevance to the value of equality and then manipulated typicality within that situation. In the pilot study, 12 participants were asked to list situations in which they considered equality to be important. The most frequently mentioned situation (10 of 12 participants) involved the workplace and hiring decisions. Consequently, discrimination in the workplace was used as the focus for both the typical and atypical instantiations of equality.

Thus, the key feature of each experiment was a manipulation of the type of example used to instantiate equality in the workplace context. Each condition therefore had to make salient the value of equality and the instantiation in which it was being considered. For example, our first two experiments made salient discrimination against women in the workplace, whereas the atypical instantiation focused on discrimination against left-handed people in the workplace. Immediately after considering an instantiation, participants gave arguments for and against the value and/or rated its importance to them. The ideal of equality as a principle applied clearly to both instances because both sex and handedness are arbitrary distinctions that should have no effect in the workplace situation that we identified. If the value of equality is considered as a rigid guiding principle, then a male candidate should be evaluated using the same criteria as a female candidate, and a left-handed candidate should be evaluated using the same criteria as a right-handed candidate. Although the left-handed/right-handed distinction is less familiar in this context and is in this sense atypical, handedness is at least as arbitrary a criterion for job selection as gender. Because the abstract value of equality is highly important to participants and they see it as highly relevant to the situation, it is hard to fathom that it would be unacceptable to discriminate between candidates on the basis of gender but acceptable on the basis of handedness—the abstract value of equality does not distinguish between these cases, even though their typicality differs.<sup>1</sup>

This assumption was supported by data obtained from 20 participants in our sample population (i.e., Cardiff University undergraduates, Cardiff, Wales). They were asked a number of questions about the typicality (eight items;  $\alpha = .83$ ) and acceptability/legality of discrimination (three items) based on gender and handedness. Examples include “To what extent do you think gender (handedness) discrimination is a typical example of discrimination?”, “How frequently does discrimination against women (left-handers) occur in the workplace (e.g., at the job interview stage)?”, and “To what extent do you think it is acceptable to discriminate on the basis of gender (handedness)?” (The entire set of typicality items is described in the section on Experiment 4, where the role of typicality is explored further.) As expected, participants rated gender discrimination as being more typical than handedness discrimination ( $p < .001$ ), and virtually all participants regarded both instances of discrimination as being highly unacceptable/illegal. In

fact, agreement was so high that there was insufficient item variance to form a reliable index of acceptance/legality across items.

The dependent measure in our experiments was the same as that used by Maio et al. (2001). This measure assessed intergroup discrimination in a modified version of the minimal group paradigm (Tajfel, 1970), which involves participants allocating points to members of two teams, their own team (e.g., the red team) and another, opposing team (e.g., the blue team). The groups cited in our typical and atypical instantiations were not at all implicated in this measure. Despite this lack of a direct link between our instantiations and the measure, we expected participants' behavior to differ following a typical instantiation as opposed to an atypical instantiation or a control task in which the value was made salient.

Each experiment also explored at least one of the three aforementioned mechanisms for any such effect. As described above, typicality effects could occur directly at the level of the abstract concept (Pathway A). If this is the case, then any effect of the typicality of the instantiation on participants' subsequent behavior arises as a consequence of increases or decreases in any one of numerous strength-related value properties included in the experiments, including ratings of value strength, value centrality, value certainty, and value relevance. Alternatively, value use could be subject to analogical reasoning (Pathway B). In this case, the typicality effect should not be mediated by the strength-related properties of the abstract value representation; instead, analogical reasoning would be evident in participants' perceptions of similarity and relevance between the instantiations and their subsequent behavior (Pathway B). Finally, differences in the process of value application itself would be evident in the extent to which the participants spontaneously mapped the instantiated value onto the subsequent context (Pathway C; see Experiment 4).

## Experiment 1

Participants in Experiment 1 were asked to consider reasons for the value of equality in situations that used a typical or atypical instantiation of the value within the same context prior to measuring egalitarian behavior. Between the manipulation and the behavioral measure, we assessed value importance, value strength, and participants' confidence in the reasons that they listed. The assessments of value importance and value strength helped to ensure that the value of equality would be salient in all conditions prior to the measure of behavior. At the same time, they enabled us to test whether changes in value importance or strength might account for the effect of typicality. We expected that participants who considered reasons for the value with a typical instantiation would act in a manner more consistent with the value than if they had considered the value with an atypical instantiation or had completed ratings that made the value salient (control).

<sup>1</sup> All of the instances of the categories in the cognitive research fall within the broader concepts. For example, although robin is a typical instance of a bird and penguin is not, there is no doubt that they are both birds. Similarly, in our research, the instantiations are instances of the value under examination and are therefore equally relevant. It is simply the typicality of the instances that varies.

## Method

### Participants

Participants were 90 Cardiff University undergraduate psychology students (76 women and 14 men) who participated for course credit or £4 (approximately \$6.50 American). Seven additional participants were eliminated from analyses because of failure to follow instructions.

### Procedure

Participants took part in groups of five to nine people, seated approximately 5 ft apart. All participants were informed that they would be taking part in a number of different studies that had been combined because they were short. The first study contained the manipulation. The second study contained seven questions ensuring the salience of equality as a value by assessing its importance and strength. The third study contained a measure of intergroup discrimination. After completing the measures, a funnel debriefing technique was used in which participants were first asked generally about their impressions of the studies and were then asked progressively more specific questions about the procedures. No participants indicated any suspicion of a connection between the studies.

### Experimental Manipulation

*Typical condition.* The experimenter stated that the first study looked at why social values are considered important in different situations. Participants were told that they would be presented with a randomly selected social value and then asked to list reasons why it was important to consider that value in a specified situation. Participants were then presented with the situation “You must choose between a male and a female candidate for the position of Executive Vice President of a company” and were asked to give as many reasons as possible why the value of equality was important in this situation. Participants were given 7 min to list their reasons on a page of lined paper and were asked to use the entire time.

*Atypical condition.* Participants in this condition followed a similar procedure as above except that they were asked to list reasons for equality with an atypical instantiation of the value, rather than a typical instantiation. Specifically, the context involved choosing between a person who was right-handed and a person who was left-handed for the position of Executive Vice President of a company.

*Control condition.* The experimenter stated that the first study was looking at reasoning about everyday choices. Participants were asked to imagine walking into their local coffee shop and ordering their favorite drink. They were then asked to give as many reasons as possible as to why they liked that particular beverage, using a page of lined paper. Participants were given 7 min to list their reasons and were asked to use the entire time. (The value of equality was then made salient using the value measures described below.)

### Confidence in Reasons

After listing their reasons (but still as part of the first study), participants in all conditions were asked to reread the reasons that

they had listed and to place markings (e.g., /) to denote where each reason began and ended. Participants then rated how confident they felt about each reason by placing a number from 1 (*not at all confident*) to 6 (*extremely confident*) beside it. Each participant's ratings were then averaged across the reasons.

### Value Importance and Strength

Participants were informed that the purpose of the second study was to assess the importance and strength of various social values to students. Participants in the typical and atypical conditions were informed that they would be presented with the same randomly selected social value for which they had previously listed reasons. Participants in the control condition were told that the social value was randomly selected. In reality, all participants were presented with questions about the value of equality. The first item, “How important is equality as a guiding principle in your life?”, was taken from the Schwartz (1992) Value Survey and was answered using a 9-point scale from  $-1$  (*opposed to my values*) to 7 (*extremely important*). This asymmetrical scale format is frequently used to assess value importance because of consensual support for most values (see Schwartz, 1992). The other items included “To what extent does the concept of equality describe you and your concerns?”, “How certain do you feel about the importance of equality?”, “How strong are your feelings about equality?”, “How relevant is equality to how you see yourself?”, “How confident are you about the importance that you attach to equality?”, and “How intensely do you feel about equality?”. Participants responded to the first item, which taps value centrality (Verplanken & Holland, 2000), using an 11-point scale from 0 (*not at all*) to 10 (*very well*) and to the latter five items using a 9-point scale from 0 (*not at all*) to 8 (*extremely*). These latter six items were highly intercorrelated ( $\alpha = .88$ ), and therefore, we calculated  $z$  scores for each and averaged them into a single measure of value strength. These questions served the dual function of (a) assessing whether instantiation typicality affects properties of the values at a more abstract level and (b) priming the value of equality in all conditions prior to our measure of intergroup discrimination (below; Maio et al., 2001).

### Measure of Intergroup Discrimination

The measure of intergroup discrimination was an adaptation of Tajfel's (1970) minimal group paradigm. The experimenter stated that the purpose of the third study was to examine decision making in multiple-choice situations and that participants would be playing a quiz game similar to “Who Wants to Be a Millionaire.” The experimenter told participants that they would be randomly assigned to either a red group or a blue group and that they would be asked to allocate points to other members of both groups before starting the game. To randomly assign group membership, each participant was asked to draw a slip of paper from a cup. Half of the slips in the cup had *red* printed on them, and the other half had *blue* printed on them. On all of the slips was a number between 30 and 100. Participants were told that the number was a code for them to write in their decision booklets, which the experimenter subsequently distributed.

Next, the experimenter informed participants that their decisions would affect future participants who, in the following week, would

be randomly assigned a group color and code number. He explained that the future participants would also play the quiz and would start with a number of points decided by the current participants' responses in their decision booklets. The experimenter then gave participants general instructions on how to make point allocations using the matrices in their booklets (see Bourhis, Sachdev, & Gagnon, 1994, for a description of these instructions).

After explaining how to allocate the points, the experimenter mentioned a caveat to the task. Specifically, participants were told that they would start their own game with the average number of points that members of their group assigned to future members of their group. Thus, the more points that participants allocated to their own group, the more points they would receive themselves. This caveat is a modification of the Tajfel (1970) paradigm that Maio et al. (2001) used to give participants added incentive to favor their own group (see Turner, 1978) and to increase the conflict with participants' value of equality.

Participants then indicated their group color and code number on the front of their booklets. The next six pages each contained one Tajfel matrix (see Figure 2 for two examples), all of which were adapted from Bourhis et al. (1994). Each matrix contained two rows and 13 columns. At the beginning of each row, there was a code number designating a future participant and a color iden-

tifying the group to which the future participants belonged. The top row always identified a member of the red group, and the bottom row always identified a member of the blue group (see Maio et al., 2001). For each matrix, participants were asked to put a cross in the column that corresponded to the number of points they wished to allocate to the two future participants. Participants were also asked to write their choice below the matrix.

As the simplest way of determining participants' engagement in pro-value behavior, the number of points allocated to the outgroup was subtracted from the number of points allocated to the ingroup across the six matrices (see Bernard, Maio, & Olson, 2003, for further explanation of this procedure). Higher scores on this index indicate more ingroup favoritism and lower egalitarianism. A score of zero represented maximum egalitarianism, while a score of 72 represented maximum ingroup favoritism. (Scores lower than zero represented outgroup favoritism, which was extremely rare in our experiments.)

### Results

There were no significant effects of sex of participant on our dependent variables, so all subsequent analyses were collapsed across this variable.

#### Matrix 1:

Please place a checkmark in the box that contains the points that you give to subject 115 in the RED group and subject 128 in the BLUE group:

115	RED	16	17	18	19	20	21	22	23	24	25	26	27	28
128	BLUE	16	15	14	13	12	11	10	9	8	7	6	5	4

Please write the points that each person receives according to the box that you have chosen:

Points for 115 of RED: \_\_\_\_\_

Points for 128 of BLUE: \_\_\_\_\_

#### Matrix 2:

Please place a checkmark in the box that contains the points that you give to subject 116 in the RED group and subject 113 in the BLUE group:

116	RED	4	5	6	7	8	9	10	11	12	13	14	15	16
113	BLUE	28	27	26	25	24	23	22	21	20	19	18	17	16

Please write the points that each person receives according to the box that you have chosen:

Points for 116 of RED: \_\_\_\_\_

Points for 113 of BLUE: \_\_\_\_\_

Figure 2. Point allocation matrices used to measure pro-value behavior.

### Number of Reasons

One of the authors counted the number of reasons listed by each participant. (The reasons were demarcated by the participants in their ratings of confidence about each reason.) A one-way (typical vs. atypical vs. control) analysis of variance (ANOVA) revealed a significant difference between the number of reasons listed in the different conditions,  $F(2, 87) = 26.03, p < .001, \eta_p^2 = .37$ . Using the Tukey honestly significant difference post hoc test, there were no significant differences between the typical ( $M = 4.63, SD = 1.16$ ) and atypical ( $M = 4.10; SD = 1.52$ ) reasons conditions,  $t(87) = 0.87, ns$ , but participants in the control condition ( $M = 8.17, SD = 3.64$ ) listed significantly more reasons than participants in the typical,  $t(87) = 5.76, p < .001$ , and atypical conditions,  $t(87) = 6.64, p < .001$ . This result is consistent with Maio and Olson's (1998) observation that participants have more difficulty listing reasons for values than reasons regarding attitudes toward mundane objects.

### Confidence in Reasons

A one-way (typical vs. atypical vs. control) ANOVA revealed that participants' confidence in their reasons did not differ across typical ( $M = 4.35$ ), atypical ( $M = 4.59$ ), and control ( $M = 4.34$ ) conditions,  $F(2, 87) = 0.83, ns, \eta_p^2 = .02$ .

### Value Importance and Strength

One-way (typical vs. atypical vs. control) ANOVAs revealed no significant effects of the manipulation on participants' postmanipulation ratings of the importance of equality (typical  $M = 5.83, SD = 1.02$ ; atypical  $M = 5.57, SD = 1.14$ ; control  $M = 5.50, SD = 1.11$ ),  $F(2, 87) = 0.79, ns, \eta_p^2 = .02$ , or on the measure of value strength (typical  $M = 0.00, SD = 0.83$ ; atypical  $M = 0.10, SD = 0.79$ ; control  $M = -0.10, SD = 0.80$ ),  $F(2, 87) = 0.65, ns, \eta_p^2 = .01$ . Similar results were found with separate analyses of the six items that constituted the measure of value strength (all  $ps > .11$ ). These six items included measures of value centrality, value certainty, and value relevance, none of which were affected by the typicality manipulation.

### Intergroup Discrimination

A one-way (typical vs. atypical vs. control) ANOVA found significant effects on the intergroup discrimination index,  $F(2, 87) = 6.30, p < .01, \eta_p^2 = .13$ . A planned comparison revealed that participants in the typical condition exhibited less ingroup favoritism ( $M = 34.27, SD = 30.39$ ) than participants in both the control condition ( $M = 54.87, SD = 19.23$ ) and the atypical condition ( $M = 53.57, SD = 24.67$ ),  $t(87) = -3.54, p < .01$ . Tendencies to favor the ingroup did not differ between the atypical and control conditions,  $t(87) = -0.20, ns$ .

### Discussion

Experiment 1 revealed that typical value instantiation elicited more subsequent pro-value behavior than the atypical value instantiation or a condition that allowed participants to restate the importance of the value to them. Specifically, this effect was driven by the typical condition; participants in this condition were

more egalitarian than participants in either the atypical or control conditions, which did not differ significantly from each other. Not surprisingly, the typical condition did not eliminate bias completely because the confidence interval (CI) for bias in this condition did not include zero ( $CI_{.95} = 22.92, 45.61$ ). This reduction without elimination is to be expected within our incentive-loaded variant of the minimal group paradigm, which provided participants with substantial incentive to favor their own group. Indeed, ingroup bias was significantly greater than zero in every condition of our subsequent experiments as well.

More important, the effect of the typicality manipulation provides the first direct support for our claim that a complete understanding of value-guided behavior requires closer attention to the actual processes by which values are brought to bear. Previously, research focused on effects of values independent of their instantiations. However, it is cognitively far from trivial to bridge the gap from abstract value to specific situation and decide that a situation provides an instance to which the value applies. Experiment 1 provides novel evidence that, for this bridging inherent in value application, recent instantiations matter. Specifically, it mattered whether participants had thought of equality in the typical context of discrimination between men and women or in the atypical context of discrimination between left-handers and right-handers, even though the value of equality was made highly salient in both cases (and equally relevant to the subsequent scenario).

Additional evidence yielded clues about the potential processes involved in this effect. The effect did not occur because typical instantiations increased participants' confidence about their reasons, the perceived importance of the value, the strength of the value, or the number of reasons linked to the value. Participants also showed no awareness of the link between the first study and the subsequent behavioral task in our extensive debriefing. These findings provide initial evidence that the effect on subsequent behavior is not brought about by changes at the abstract value level (Pathway A) or by a straightforward conscious use of analogical reasoning (Pathway B), but we revisited these possibilities in each of the subsequent experiments.

### Experiment 2

Experiment 2 used a design that maps more closely onto real-world situations. Despite the importance of reasoning and the use of reasons to elicit value-consistent behavior in previous research (e.g., Maio et al., 2001), most real-world instantiations do not involve explication of reasons for a value (Maio & Olson, 1998). In everyday life, individuals simply experience, hear about, or read an account of an incident without necessarily considering reasons for or against the values involved. Is it sufficient to simply imagine a typical instantiation of a value for effects on subsequent behavior to occur, or is it necessary to also produce or read reasons for a value? The answer to this question would shed light on the process underlying the use of values, and no previous research has addressed the possibility of encouraging pro-value behavior simply via elaborated instantiations.

Experiment 2 therefore presented an expanded version of the typical or atypical instantiation used in Experiment 1 for a limited time (3 min), and no reasons were requested. Participants then completed the same measure of egalitarian behavior as in the prior experiment.

### Method

#### Participants and Procedure

Participants were 60 (46 female, 11 male, and 3 who failed to indicate their sex) high school A-level students in different schools across South Wales. Another 7 participants were eliminated from analyses because of failure to follow instructions or because they exhibited suspicion. All participants took part on a voluntary basis and completed the same basic procedure followed in Experiment 1 except for alterations to the experimental manipulation (below). This manipulation simply varied the content of a value instantiation (typical, atypical vs. control) that participants were asked to read. Participants then completed measures of value importance and centrality from Experiment 1, which also served to make the value of equality salient before completing the measure of intergroup discrimination. The measure of intergroup discrimination was the same as in Experiment 1.

#### Experimental Manipulation

*Typical instantiation.* In this condition, participants were told that the first study was investigating people's perceptions of the involvement of social values in different situations. They read an expanded version of the typical instantiation from the previous experiment for 3 min. Specifically, participants were presented with a short story that described interviews for the position of Executive Vice President. The story described interviews that took place at a local café to accommodate the large numbers of people on the interview panel. Candidates had to make a presentation to the panel members on their ideas for the future of the company. The description ended with two sentences suggesting that an inadvertent physical feature of the setting (a cobblestone floor) caused unintentional discrimination against the female candidates:

Unfortunately, the cobblestones meant that the female candidates had a very hard time of walking while giving their presentations, because of the heels on their shoes. The male candidates did not have this difficulty and made better impressions on the interview panel.

*Atypical instantiation.* The procedure in this condition was identical to that used in the typical instantiation except that the text ended with two sentences suggesting that an inadvertent physical feature of the setting (placing of the lectern) caused unintentional discrimination against left-handed candidates:

Unfortunately, the set up of the equipment meant that the left-handed candidates had a very hard time making their presentation; they had to walk from the lectern to the other side of the screen to use their left hand to point out important information. Right-handers could stay at the lectern and continue to glance at their notes, and these candidates made better impressions on the interview panel.

*Control condition.* In this condition, participants were informed that the first study would present them with two questions about a randomly selected social value. All participants in this condition proceeded directly to the measures of value importance and strength.

### Results

There were no significant effects of sex of participants on our principal dependent variable (intergroup discrimination), so all analyses were conducted across sex.

#### Value Importance and Centrality

Consistent with Experiment 1, one-way (typical vs. atypical vs. control) ANOVAs again revealed no significant effects of the manipulation on participants' postmanipulation ratings of the importance of equality (typical  $M = 6.05$ ,  $SD = 1.00$ ; atypical  $M = 6.00$ ,  $SD = 1.08$ ; control  $M = 6.22$ ,  $SD = 0.65$ ),  $F(2, 57) = 0.30$ ,  $ns$ ,  $\eta_p^2 = .01$ , or on value centrality (typical  $M = 7.14$ ,  $SD = 1.83$ ; atypical  $M = 6.90$ ,  $SD = 2.34$ ; control  $M = 6.78$ ,  $SD = 1.99$ ),  $F(2, 57) = 0.16$ ,  $ns$ ,  $\eta_p^2 = .01$ .

#### Intergroup Discrimination

Also consistent with Experiment 1, a one-way (typical vs. atypical vs. control) ANOVA revealed significant effects on the index of intergroup discrimination,  $F(2, 57) = 6.20$ ,  $p < .01$ ,  $\eta_p^2 = .18$ . A planned comparison revealed that participants in the typical condition exhibited less ingroup favoritism ( $M = 13.36$ ,  $SD = 23.36$ ) than participants in both the atypical ( $M = 30.35$ ,  $SD = 28.84$ ) and the control conditions ( $M = 43.44$ ,  $SD = 29.32$ ),  $t(57) = -3.24$ ,  $p < .05$ . Tendencies to favor the ingroup did not differ between the atypical and control conditions,  $t(57) = -1.49$ ,  $ns$ .

### Discussion

Experiment 2 supported the hypothesis that the typicality of the instantiation is sufficient to influence participants' subsequent behavior even when no reasons are contemplated. This is the first evidence that an extended instantiation alone can impact subsequent, unrelated behavior; participants were more egalitarian after reading an extended version of the typical (male vs. female job decision) instantiation than after reading an extended version of the atypical (left-hander vs. right-hander job decision) instantiation or after simply rating the importance and centrality of equality. Crucially, the typical and atypical instantiations were within the same situational context, and it was only their typicality that was manipulated.

As in Experiment 1, there were clues about the viability of different processes for explaining this effect. The effect was again not mediated by an impact on the importance or centrality of the value (Pathway A). Furthermore, as in Experiment 1, the funnel debriefing revealed no evidence that this effect was due to a perceived link between the typical instantiations and the subsequent behaviors (Pathway B).

### Experiment 3

Experiment 3 tested the generalizability of the typicality effect using new instantiations, again in the workplace context. Both instantiations involved discrimination against groups that are important potential targets of prejudice. The typical instantiation involved discrimination against a Black applicant, and the atypical instantiation involved discrimination against an applicant with a disability. As in our prior examination of gender and handedness, separate data supported our use of race as a more typical instantiation than disability. Twenty participants in our sample population (i.e., Cardiff University undergraduates) were asked a number of questions about the typicality (eight items) and acceptability/legality of discrimination (three items) based on race and disabil-

ity. Examples include “To what extent do you think race (disability) discrimination is a typical example of discrimination?”, “How frequently does discrimination against Blacks (people with slight disabilities [e.g., an eye patch]) occur in the workplace (e.g., at the job interview stage)?”, and “To what extent do you think it is acceptable to discriminate on the basis of race (disability)?” As expected, participants rated race discrimination as being more typical than disability discrimination ( $p < .03$ ), and virtually all regarded both instances of discrimination as being highly unacceptable/illegal (creating insufficient item variance to form a reliable index). Despite the change in target groups, we expected that the typical instantiation would again evoke more subsequent egalitarian behavior than the atypical instantiation.

In addition, Experiment 3 used two alternative measures to explore Pathways A and B as explanations for the effect of typical instantiations. With regard to Pathway A, the experiment tested whether the typical instantiation affects the manner in which people regulate their pursuit of the abstract value. Higgins (1998) drew a distinction between people’s wants and desires and the oughts and norms that they perceive from other people and society generally. It is possible that, although participants’ perception of the importance or centrality of equality does not change in the different instantiations, their perception of the extent to which they want to or feel they should use equality does change. This effect would contradict the claim that the effects do not operate through Pathway A (i.e., without mediation through the abstract value). To examine this possibility, participants completed measures of the extent to which they would want to and would feel they should use equality in their general decision making.

With regard to Pathway B, the experiment tested whether the typical instantiation provides support for pro-value behavior by perhaps affecting the emotions felt for that specific situation, which could affect emotional experience in the subsequent situation. For example, people might feel more sympathy for the victim of inadvertent discrimination in the typical instantiation than in the atypical instantiation. Because empathy tends to elicit greater pro-social behavior (e.g., Batson & Tacia, 1999), it is possible that the elicitation of greater empathy in the typical instantiation leads to an increase in empathy for outgroup members in the subsequent situation, causing an increase in egalitarian behavior. To explore this possibility, participants were presented with the situation and asked to rate the extent to which they felt sympathy for the individual involved.

### Method

#### Participants

Participants were 60 (47 female, 11 male, and 2 who failed to indicate their gender) Cardiff University undergraduate students who participated for course credit or £3 (approximately \$5.00 American). Eight additional participants were excluded from analyses for failure to complete all sections of the study or for indicating suspicion.

#### Procedure

Participants were seated approximately 5 ft apart in groups of two to seven. Following a similar procedure to the previous ex-

periments, all participants were informed that they would be taking part in two different studies: The first contained the manipulation and the value measures, and the second contained the measure of intergroup discrimination used in the prior experiments. Participants were debriefed and probed for suspicion using the funnel debriefing method.

#### Experimental Manipulation

*Typical instantiation.* Following the same procedures as in Experiment 2, the experimenter presented a short story that described interviews for the position of Executive Vice President. (This overarching story line was maintained from the previous experiments because participants often noted the ecological validity of the situation during debriefing in the prior experiments.) The story described interviews that included a half-hour presentation and then a formal interview by a large panel of interviewers. The description ended with three sentences suggesting that nervousness on the part of several members of the interview panel, who were keen to avoid prejudice, caused unintentional discrimination against the Black candidate:

Unfortunately, several of the members of the panel had limited experience with people from ethnic minorities and were nervous about appearing uncomfortable or biased. The Black applicant picked up on their nervousness, which affected his confidence and made him answer questions more tentatively. As a result, the White applicants made better impressions on the interview panel.

*Atypical instantiation.* The procedure in this condition was identical to that used in the typical instantiation condition except that the text in this condition ended with three sentences suggesting that nervousness on the part of several members of the interview panel, who were keen to avoid prejudice, caused unintentional discrimination against a candidate with an eye patch:

Unfortunately, several of the members of the panel had limited experience of people with disabilities and were nervous about appearing uncomfortable or biased. The applicant with an eye patch picked up on their nervousness, which affected his confidence and made him answer questions more tentatively. As a result, the other applicants made better impressions on the interview panel.

*Control condition.* In this condition, participants were informed that the first study was about social values and that they would be presented with three questions about a randomly selected social value. Participants in this condition proceeded directly to the general value and regulatory focus measures.

#### General Value and Regulatory Focus Measures

Participants were asked to rate the importance of equality to them as a guiding principle in their life, using a 9-point scale from  $-1$  (*opposed to my values*) to  $7$  (*extremely important*). In addition, participants were asked to rate the extent to which they felt they should use and would want to use equality in their decision making in general, using two 11-point scales from  $0$  (*not at all*) to  $10$  (*definitely*).

#### Associated Affect

Participants in the typical and atypical conditions were asked to rate how sorry they felt for the candidate who was discriminated

against and how sympathetic they felt toward the candidate, using 11-point scales from 0 (*not at all*) to 10 (*extremely*).

### Results

There were no significant effects of sex of participant on any of the dependent variables, so all analyses were collapsed across sex.

#### General Value and Regulatory Focus Measures

Consistent with Experiments 1 and 2, a one-way (typical vs. atypical vs. control) ANOVA revealed no significant effects of the manipulation on participants' postmanipulation ratings of the importance of equality (typical  $M = 5.35$ ,  $SD = 1.53$ ; atypical  $M = 5.60$ ,  $SD = 1.14$ ; control  $M = 5.45$ ,  $SD = 1.00$ ),  $F(2, 57) = 0.20$ ,  $ns$ ,  $\eta_p^2 = .01$ . In addition, one-way ANOVAs revealed no significant effects of the manipulation on the extent that participants should use equality in general (typical  $M = 8.60$ ,  $SD = 1.14$ ; atypical  $M = 7.90$ ,  $SD = 1.65$ ; control  $M = 7.95$ ,  $SD = 1.39$ ),  $F(2, 57) = 1.53$ ,  $ns$ ,  $\eta_p^2 = .05$ , or on the extent that participants would want to use equality in general (typical  $M = 8.65$ ,  $SD = 1.46$ ; atypical  $M = 8.15$ ,  $SD = 1.27$ ; control  $M = 7.95$ ,  $SD = 1.61$ ),  $F(2, 57) = 1.23$ ,  $ns$ ,  $\eta_p^2 = .04$ . This was also the case when these measures were combined (typical  $M = 8.62$ ,  $SD = 1.21$ ; atypical  $M = 8.03$ ,  $SD = 1.25$ ; control  $M = 7.95$ ,  $SD = 1.43$ ),  $F(2, 57) = 1.62$ ,  $ns$ ,  $\eta_p^2 = .05$ .<sup>2</sup>

#### Associated Affect

Our  $t$  tests revealed no significant effects of the (typical vs. atypical) manipulation on participants' ratings of how sorry (typical  $M = 7.75$ ,  $SD = 1.37$ ; atypical  $M = 6.70$ ,  $SD = 2.43$ ),  $t(38) = 1.68$ ,  $ns$ , or sympathetic (typical  $M = 7.45$ ,  $SD = 1.61$ ; atypical  $M = 7.10$ ,  $SD = 2.02$ ),  $t(38) = 0.61$ ,  $ns$ , they felt for the individual in the story. A combined measure of sorrow and sympathy ( $\alpha = .81$ ) revealed similar null effects (typical  $M = 7.60$ ,  $SD = 1.39$ ; atypical  $M = 6.90$ ,  $SD = 2.15$ ),  $t(38) = 1.22$ ,  $ns$ .

#### Intergroup Discrimination

A one-way (typical vs. atypical vs. control) ANOVA found significant effects on the index of intergroup discrimination,  $F(2, 57) = 6.54$ ,  $p < .01$ ,  $\eta_p^2 = .19$ . As in the prior experiments, a planned comparison revealed that participants in the typical condition exhibited less ingroup favoritism ( $M = 27.00$ ,  $SD = 30.55$ ) than participants in both the atypical ( $M = 51.85$ ,  $SD = 21.30$ ) and the control conditions ( $M = 53.20$ ,  $SD = 24.69$ ),  $t(57) = -3.61$ ,  $p < .01$ . Again, tendencies to favor the ingroup did not differ between the atypical and control conditions,  $t(57) = -0.17$ ,  $ns$ .<sup>3</sup>

### Discussion

Using new instantiations, Experiment 3 again found that the typicality of the instantiation had a significant influence on participants' subsequent pro-value behavior. Participants were more egalitarian after reading the typical instantiation (Black candidate) than after reading the atypical instantiation (candidate with an eye patch) or after simply completing the general value measures. Despite the change in instantiations from Experiments 1 and 2,

typicality mattered once more. Across Experiments 1, 2, and 3, the effect held across three different operationalizations.

As in the two previous experiments, this effect was not mediated by an impact on the importance of the value at an abstract level. In fact, two additional experiments found that the procedures did not affect value accessibility and a number of other properties of the value at an abstract level, as described in Footnote 2. Also, the effect of typicality was not mediated by any impact of the manipulation on regulatory focus toward the value or affective associations with the individual in the instantiation. In addition, participants again denied a connection between the prior instantiation and the new situation in the funnel debriefing. Overall, these results consistently indicate that the effects did not occur through the changes associated with the strength or accessibility of abstract values per se (Pathway A) or through a straightforward analogical mapping from one situation to another (Pathway B).

<sup>2</sup> Two additional experiments examined a variety of other potential changes in the value at an abstract level. In one of the experiments, we gave 40 (35 female and 5 male) participants the materials from either the typical or atypical condition of Experiment 3 and then asked them to complete measures of the accessibility of the concept of equality, based on two well-established reaction-time methods. In the other experiment, 162 (147 female and 15 male) participants completed the typicality manipulation followed by questions designed to measure familiarity with the value of equality, self-efficacy, and utility of the value for the self and others. The effects of the manipulation on value accessibility and the other variables were very weak and nonsignificant. The only exception was that participants in the typical condition felt that other people needed to use equality less,  $t(160) = -2.56$ ,  $p < .05$ , but this odd result does not seem to explain the effects of typicality on greater egalitarianism. Overall, then, we have consistently obtained no evidence supporting the view that typicality of instantiation exerts an effect through strength-related aspects of equality as an abstract value.

<sup>3</sup> Our approach to calculating ingroup favoritism is similar to methods used by Berkowitz (1994) and Maio et al. (2001). These were adopted to avoid potential pitfalls of motivational pull scores (Bourhis et al., 1994). Moreover, during debriefing, a number of participants explained that their allocation of points was derived across the six matrices and not from each one independently (e.g., "If I gave more to my team on one page, I gave more to the other team on another"). Such techniques would be ignored by the traditional pull calculations. Nevertheless, to enable a comparison with pull scores, we include the relevant pull scores for Experiment 3. These scores reflect the pull of one strategy against others (e.g., equality against ingroup profit and maximum difference). Consistent with the overall difference scores, planned comparisons revealed that participants in the typical instantiation condition showed a stronger pull for equality against ingroup profit and maximum difference ( $M = 6.15$ ,  $SD = 5.74$ ) than participants in both the atypical ( $M = 1.75$ ,  $SD = 5.06$ ) and control conditions ( $M = 1.45$ ,  $SD = 4.37$ ),  $t(57) = 3.27$ ,  $p < .01$ . In addition, participants in the typical condition showed a weaker pull of maximum difference against ingroup profit and joint profit ( $M = 4.00$ ,  $SD = 4.53$ ) than participants in both the atypical ( $M = 7.85$ ,  $SD = 4.18$ ) and control conditions ( $M = 7.80$ ,  $SD = 5.20$ ),  $t(57) = -3.00$ ,  $p < .05$ , and participants in the typical condition exhibited a weaker pull of ingroup favoritism and maximizing difference against joint profit ( $M = 4.30$ ,  $SD = 5.38$ ) than participants in both the atypical ( $M = 8.70$ ,  $SD = 4.16$ ) and control conditions ( $M = 8.65$ ,  $SD = 4.54$ ),  $t(57) = 3.39$ ,  $p < .05$ . Similar trends were evident in the other experiments.

### Experiment 4

The first three experiments repeatedly revealed that typical instantiations make it more likely that subsequent pro-value behavior will occur than do atypical instantiations. Given the consistency of these results, we turned our attention to focus more closely on the mechanism issue.

The preceding experiments did not reveal an influence of instantiations on the abstract value or a simple process of analogical reasoning. This leaves us with Pathway C as the strongest potential candidate for explaining the effect of typical value instantiations. That is, the typical instantiation may affect the process of applying the value to a subsequent situation. A typical instantiation may make people more perceptually ready to see a value in a subsequent situation because typical instantiations are more central in representations of a concept. This centrality should make it more likely that participants will construe the subsequent situation as being relevant to the value that was given the typical instantiation.

In the context of values, a key characteristic of this differential application of the value should be differences in the specific goals that people form in the subsequent situation. Recent influential models agree that values serve to express basic (and less abstract) goals (Grouzet et al., 2005; Schwartz, 1992). For instance, Schwartz's (1992) circular model of values predicts that they are interconnected in a manner that reveals specific motivational conflicts and compatibilities that arise in daily attempts to reconcile self, social, and societal pressures. This type of motivational footprint of values has been revealed in many studies using different paradigms (Bardi & Schwartz, 2003; Maio, Pakizeh, Cheung, & Rees, in press; Pakizeh, Gebauer, & Maio, 2007; Roccas, Sagiv, Schwartz, & Knafo, 2002; Schwartz & Rubel, 2005). With regard to the value of equality in particular, the circular model predicts that this value stands in conflict with goals focusing on personal interests (e.g., success) or ingroup protection. Consequently, any application of equality to a situation should simultaneously entail lower concern with personal interests and ingroup protection in that situation. Thus, if Pathway C for explaining the typicality effect is valid, we should be more likely to detect this difference in these situationally instantiated goals following a typical instantiation of the value than following its atypical instantiation.

It is important that this explanation focuses on goal changes in the situation. We are not implying that there are changes in the general, trans-situational importance of equality as a goal. Experiment 3 did not find changes in regulatory focus toward equality at a general level, nor did we see any other evidence of differences in motivational attachment to this value in numerous other measures. An important difference between those findings and the approach implied by Pathway C is that all of our previous measures gave people the value concept and looked at responses to it, whereas Pathway C suggests that we should look at spontaneous construal of the values in the subsequent, new situation. The latter approach is more suitable to detecting differences in perceptual readiness or application.

Experiment 4 therefore tested whether the typicality of the instantiation of equality affects the later application of this value by shaping the goals that people spontaneously experience in the subsequent situation. We assessed four goals that are relevant to our variant of the minimal group paradigm. Specifically, participants were asked to indicate the extent to which they were moti-

vated during their point allocations by success (recall that our variant allows points for the self to be proportional to ingroup points), ingroup protection, equality, and outgroup protection. Of course, this measurement approach takes a chance that participants can accurately report their own goals, and it is possible that the situationally instantiated goals occur at too low a level of consciousness for this to occur. Nonetheless, this measurement approach could yield cogent evidence if it turns out that a difference in situationally instantiated goals completely mediates the effects of prior instantiation, while all of the other measures of value at an abstract level have not done so.

In addition, Experiment 4 expanded the exploration of the analogical reasoning mechanism (Pathway B) by asking participants to complete a series of items assessing the extent to which they thought that the prior instantiation was relevant to their point allocations. Given the prior evidence failing to support Pathway B, we expected that the typical instantiation would be more likely to cause lower self- and ingroup-favoring (pro-equality) goals, without affecting participants' perceptions of the relevance of the instantiations to their discrimination decisions. Moreover, the effect on situationally instantiated goals should mediate the impact of the typicality manipulation on point allocation. These effects were examined using the typical instantiation from Experiment 3 (discrimination against Blacks) and the atypical instantiation from Experiments 1 and 2 (discrimination against left-handers). This comparison of instantiations from different experiments enabled us to further test the robustness of the typicality effect.

### Method

#### Participants

Participants were 77 (60 female, 17 male) undergraduate students from Cardiff University and the University of Glamorgan (Pontypridd, Wales) who participated for course credit or voluntarily. Four additional participants were excluded from analyses for failure to complete all sections of the study or for indicating suspicion.

#### Procedure

Participants were seated approximately 5 ft apart in groups of two to 17. Following a similar procedure to the previous experiments, all participants were informed that they would be taking part in two different studies: The first contained the manipulation and the measure of the importance of equality, and the second contained the measure of intergroup discrimination used in the prior experiments. After these measures, participants completed four items tapping the goals that they experienced while completing the minimal group paradigm. Participants then completed a variety of items assessing their perceptions of the prior situation that they had read about, including items assessing typicality and the relevance of the situation to decisions in the minimal group paradigm. A separate control condition was not included in this experiment because the above-mentioned questions were not applicable when the manipulation scenario was absent. (Moreover, Experiments 1–3 also made clear that the effects of the manipulation on discrimination were carried solely by the typical instantiation condition.) As in the prior experiments, participants were

debriefed and probed for suspicion using the funnel debriefing method.

### *Experimental Manipulation*

*Typical instantiation.* Following the same procedures as in Experiment 3, participants were presented with a short story that described interviews for the position of Executive Vice President. The story described interviews that included a half-hour presentation and then a formal interview by a large panel of interviewers. The description ended with three sentences suggesting that nervousness on the part of several members of the interview panel, who were keen to avoid prejudice, caused unintentional discrimination against the Black candidate:

Unfortunately, several of the members of the panel had limited experience with people from ethnic minorities and were nervous about appearing uncomfortable or biased. The Black applicant picked up on their nervousness, which affected his confidence and made him answer questions more tentatively. As a result, the White applicants made better impressions on the interview panel.

*Atypical instantiation.* The text was identical to that used in the typical instantiation condition except that this version ended with three sentences suggesting that there was unintentional discrimination against a left-handed candidate:

Unfortunately, the presentation lectern was set up in a way that made it difficult for left-handers to use. The left-handed applicant became nervous and clumsy while giving the presentation, which made him answer questions more tentatively. As a result, the other applicants made better impressions on the interview panel.

### *Importance of Equality*

As in the prior experiments, participants rated the importance of equality to them immediately after having read the typical or atypical instantiation, using a 9-point scale from  $-1$  (*opposed to my values*) to  $7$  (*extremely important*).

### *Situationally Instantiated Goals*

Four questions asked participants about the extent to which they considered “success,” “protecting my group,” “equality,” and “protecting the other group” when they allocated points. Participants responded to each item using an 11-point scale from 0 (*not at all*) to 10 (*a large amount*). After reverse-coding of the item assessing the egalitarian goal, responses to the first three items were significantly correlated ( $r_s > .33$ ,  $p_s < .01$ ), whereas the goal to protect the other group did not relate significantly to success or ingroup protection ( $|r_{sl}| < .07$ ,  $ns$ ). Thus, we averaged the first three items to calculate a reliable index of the extent to which participants sought to favor themselves or their own group ( $\alpha = .71$ ). (The effects on this three-item scale yielded the same conclusions as from the equality item alone.) Outgroup protection (which is very rarely seen in this paradigm) was not significantly affected by our manipulation ( $p = .89$ ) and is therefore not discussed further.<sup>4</sup>

### *Perceptions of the Instantiations*

After rating their situational goals, participants completed 17 items assessing their perceptions of the instantiation that they had

read about and its relevance to the point allocation task. Participants responded to each item using an 11-point scale from 0 (*not at all*) to 10 (*extremely*). These items first asked about the extent that (a) participants thought about the scenario while they were deciding how to allocate points, (b) the scenario influenced their decision, (c) the scenario was relevant to their decision, (d) the scenario was similar to the point dilemma, (e) they thought about the interviewee, and (f) they thought about the interviewers.

The items then probed aspects of the instantiation potentially relevant to its typicality. Specifically, participants rated (a) the extent to which the situation was typical, (b) how frequently people like the interviewee were not hired, (c) how often these sorts of events occurred, (d) the seriousness of the situation, (e) how much they could relate to the scenario, (f) how much the event seemed like discrimination, (g) how often they thought about discrimination against the group, (h) the extent to which discrimination against the group was topical (i.e., newsworthy), (i) the importance of the situation, (j) how likely it was that employers discriminate against this group, and (k) the frequency of discrimination against this group in high-powered jobs.

Supporting our categorization of the items, a principal-components factor analysis of the items identified two factors (using a scree plot to identify the number of factors). Rotation of the factors using the varimax procedure revealed that virtually all of the items loaded above .30 on their respective factor. Only the fifth typicality item (“Can you relate to this scenario?”) possessed a lower loading (.27), so it was excluded from our calculation of the final scales. The final scales were calculated by averaging across the selected items, and internal consistency was good for both the relevance scale ( $\alpha = .91$ ) and the typicality scale ( $\alpha = .83$ ).

## *Results*

There were no significant effects of sex of participant on any of the dependent variables, so all analyses were collapsed across sex.

### *Importance of Equality*

Consistent with Experiments 1, 2, and 3, a *t*-test comparison revealed no significant effects of the typical versus atypical manipulation on participants’ postmanipulation ratings of the importance of equality (typical  $M = 5.45$ ,  $SD = 1.37$ ; atypical  $M = 5.89$ ,  $SD = .81$ ,  $t(75) = 1.70$ ,  $ns$ ).

### *Perceived Relevance*

A *t* test revealed a nonsignificant effect of the manipulation on the index of perceived relevance (typical  $M = 2.56$ ,  $SD = 2.27$ ;

<sup>4</sup> In addition, there was one open-ended question asking participants to describe their reasons for assigning the points the way they did. Our own coding of responses to this item revealed the same pattern of effects as in the response scales but was not significant on its own. Its reliance on our own coding may have made it more limited in accuracy and power than the items that allowed participants to rate their goals. Nonetheless, it was interesting that approximately half of the participants in each condition mentioned concerns about fairness. These concerns show that participants thought that equality was applicable to the minimal group setting.

atypical  $M = 2.07$ ,  $SD = 1.73$ ),  $t(73) = 1.05$ ,  $p < .30$ . Thus, the typical instantiation was not seen as being more or less relevant to the minimal group paradigm than the atypical instantiation. Confirming indications from the prior funnel debriefings, both instantiations were perceived as low in relevance (both  $M$ s  $< 3$  on the scale from 0 to 10).

### Typicality

As expected, the typical instantiation was rated as more typical ( $M = 6.05$ ,  $SD = 1.43$ ) than the atypical instantiation ( $M = 5.20$ ,  $SD = 1.40$ ),  $t(72) = 2.59$ ,  $p < .02$ .

### Intergroup Discrimination

A  $t$  test revealed a significant effect of the manipulation on the index of intergroup discrimination,  $t(73) = 2.02$ ,  $p < .05$ . As in the prior experiments, participants in the typical instantiation condition exhibited less ingroup favoritism ( $M = 22.55$ ,  $SD = 28.02$ ) than participants in the atypical instantiation condition ( $M = 35.57$ ,  $SD = 27.85$ ).

### Situationally Instantiated Goals

Participants who received the typical instantiation were less likely to endorse the self- and ingroup-favoring goal ( $M = 4.71$ ,  $SD = 2.61$ ) than participants who received the atypical instantiation ( $M = 6.17$ ,  $SD = 2.32$ ),  $t(74) = 2.57$ ,  $p < .02$ . This goal, in turn, predicted lower intergroup discrimination in a regression with the self- and ingroup-favoring goal as the sole predictor,  $\beta = .74$ ,  $t(72) = 9.31$ ,  $p < .001$ . Furthermore, a regression analysis that entered the self- and ingroup-favoring goal and experimental condition as simultaneous predictors of discrimination supported the hypothesis that the impact of the typicality manipulation was mediated by its impact on the goals experienced in the situation (see Figure 3). Specifically, the effect of the situationally instantiated goals remained highly significant,  $\beta = .75$ ,  $t(71) = 8.87$ ,  $p < .001$ , while the effect of the typicality manipulation became negligible and nonsignificant,  $\beta = .02$ ,  $t(71) = 0.26$ ,  $p = .80$ . In contrast, the effect of the typicality manipulation on situationally instantiated goals was not eliminated,  $\beta = -.16$ ,  $t(71) = 2.05$ ,  $p < .05$ , in a regression that included discrimination as a simultaneous predictor of them. (This result argues against the interpretation that participants were merely reporting their actual allocation behavior in response to the items asking about their motives in the minimal group paradigm.) The Sobel test for mediation through situationally instantiated goals was significant ( $z = -2.47$ ,  $p < .02$ ).

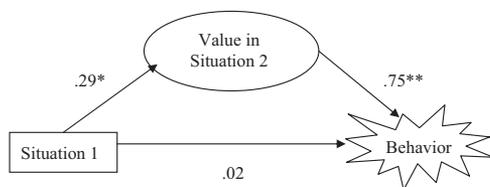


Figure 3. Support for Pathway C (see Figure 1) in Experiment 4. The numbers alongside each path are the beta coefficients for the effect of the predictor controlling for any other variable sharing a common criterion. \*  $p < .05$ . \*\*  $p < .001$ .

### Discussion

Unlike each of the prior experiments, Experiment 4 discovered a variable that does mediate the effect of typical instantiations on subsequent behavior: situationally instantiated goals. In fact, the role of situationally instantiated goals was powerful. The construal of different goals from the situation completely mediated the effect of instantiation on pro-value behavior: The effect of prior instantiation was eliminated when the effect on situationally instantiated goals was taken into account. This result locates and clarifies the nature of the underlying mechanisms as belonging to Pathway C in our model of potential mechanisms.

An interesting secondary aspect of the experiment is that it included instantiations from different experiments. This new comparison is interesting because it introduced a subtle difference between the typical instantiation and atypical instantiations: They cited different distal causes for the discrimination that occurred. Specifically, the discrimination in the typical instantiation was inadvertently caused by the evaluation panel, while the atypical instantiation involved discrimination elicited by the setting. We know that this difference does not drive the effect of typicality because this difference was not present in the comparisons used in the prior experiments. Experiment 4 also showed that the distal cause of the discrimination does not attenuate the effect either. Despite this difference in the distal cause of the discrimination, the effect of typicality was replicated. This attests to the robustness of the typicality effect.

### General Discussion

This research has provided consistent evidence that the way a value is instantiated in one situation affects pro-value behavior in a subsequent situation. Four experiments demonstrated that exposure to a typical instantiation enhances subsequent pro-value behavior, whereas exposure to an atypical instantiation does not. This effect was first revealed in an experiment that did not mention any explicit violation of this value (Experiment 1) and then in experiments that mentioned a concrete situation with an inadvertent violation of equality (Experiments 2, 3, and 4). In the latter three experiments, the value was made salient using instantiations that were akin to real-life situations. Together, the results provide consistent evidence that the typicality of a value instantiation affects the application of the value to subsequent situations.

To locate the mechanism underlying the typicality effect, our experiments included numerous properties of the value at an abstract level, including measures of value importance, value strength, value centrality, value relevance, value certainty, value-associated affect, means of value regulation, value accessibility, value familiarity, self-efficacy, and utility of the value for the self and others (see also Footnote 2, above). None of these variables were responsible for the results. Though participants had ample opportunity to express increased commitment to the value, there was no evidence that any of these variables mediated the robust effect of typicality. The typicality of the instantiations did not change any properties of the abstract value, arguing against the abstract value mechanism postulated

in our Pathway A (see Figure 1).<sup>5</sup> Moreover, the lack of an effect on value accessibility argues against any (remote) possibility that the typical instantiation condition merely primed the value more strongly than the atypical instantiation condition. (This possibility is remote because we explicitly made the value salient in the typical and atypical conditions, as noted above.)

What seems clear is that a fundamental reorientation toward the processes involved in value-congruent behavior is required if values and their role in day-to-day life are to be fully understood. People perceive no moral or rational basis for distinguishing between the typical and atypical instantiations. Indeed, the vast majority of participants rated all of the forms of discrimination to be unacceptable and illegal. Simply put, people's behavior in a simple task that allocates points to two different teams was altered by whether they had just thought about a typical or atypical instantiation of equality within the same situational context even though the value of equality was equally relevant to both instantiations. Moreover, neither of these instantiations had any direct bearing on the subsequent decision task. When we probed our participants about these effects, none thought that they should be or were influenced by the nature of the prior instantiation. To them, there was no overt reason why seeing discrimination against women or left-handers or against Blacks or the disabled should cause different subsequent levels of discrimination in the minimal group paradigm. In addition, participants perceived no link between our explicit priming of the value instantiation in the first study and the behavioral measure in the subsequent study. Using funnel debriefing throughout the four experiments, we excluded participants who indicated any level of suspicion from the analyses. Moreover, participants' beliefs about the relevance of the instantiations to their subsequent decisions in the minimal group paradigm were not responsible for the greater effect of the typical instantiation in Experiment 4. Together, these observations refute the analogical reasoning explanation postulated in our Pathway B (see Figure 1).

Instead, the results support the value-application mechanism highlighted in our Pathway C (see Figure 1); that is, the typical instantiation was more likely to shape the goals that were drawn from the subsequent situation. In Experiment 4, the typical instantiation of equality decreased the goal to be self- and ingroup-favoring in the minimal group paradigm. This change in situationally instantiated goals completely mediated the effect of the typicality manipulation on subsequent discrimination. This pattern suggests that prior instantiation is vital to understanding the processes by which important and accessible values are applied to a situation. This discovery is interesting in light of the prevailing recognition that behavioral change can arise not only from changes to representations but also from the processes following from these representations (e.g., Janiszewski & Chandon, 2007; Reber & Schwarz, 1999; Reber, Winkielman, & Schwarz, 1998). The present evidence shows that models of value-behavior linkage need to encompass these processes.

It also seems likely that effects of prior processing will not be limited to differences arising from typicality. Hence, future research should seek other aspects of processing that might be influential. At the same time, the typicality of instantiation itself is determined by many factors (Barsalou, 1987), including central tendency, ideals, and frequency of instantiation. This emergence

from constituent attributes is similar to the ways that the social psychological constructs of identification, entitativity, and argument strength are emergent constructs from related attributes. A classic quote on typicality illustrates our point:

It should be noted that each of the factors discussed so far—central tendency, ideals, frequency of instantiation—accounts for unique typicality variance. Each predicts typicality to a substantial extent after effects of other possible determinants have been partialled out. . . . It is safe to say that there are many reasons why exemplars are typical and that no single factor or invariant set of factors is solely responsible. (Barsalou, 1987, p. 105)

An interesting research agenda is to unravel in detail the different subspects of the typicality effect in a specific situation, especially given the fact that there can (and frequently will) be several aspects that make a case typical; these aspects vary across cases, and typicality is the sole explanatory construct across them. What matters in the current research, as in previous research in the cognitive and social literature (e.g., Cherniak, 1984; Lord et al., 1994), is that instances do vary in typicality and that these variations yield important effects. In essence, we have used the typicality effect to show that the process of value application is nontrivial and is crucial to when and why values are brought to bear on situations even for such a highly important and central value.

Although the dominant paradigm treats values solely as abstract principles, the present evidence echoes some prior suggestions that values might exist primarily as concrete instantiations (Kristiansen & Zanna, 1988; Seligman & Katz, 1996). As we argued in the introduction, abstract values must be instantiated for them to be applied to a particular situation. Unlike the prior suggestions, however, we expect that people also possess an abstract representation of the value, possibly formed from their total sets of instantiations, just as occurs in other types of concept learning. In fact, the current research provides evidence for the existence of both levels of value representation. Despite the impact of the value instantiations on subsequent behavior, neither value importance nor value strength ratings differed across the instantiations, suggesting that value representations at the higher, abstract level are reasonably unaffected by instantiations of the value. However, if an instantiation is a typical or familiar one, it is more likely to facilitate the application of the idea to the new context. A complex issue for future research involves untangling the ways in which value instantiations and the abstract value are interlinked over time.

The results across experiments have important implications for understanding the nature and rationality of human moral judgment and behavior. Equality is not just any old value; it is a fundamental moral value (Schwartz, 1992), and as such, it is enshrined politically and legally in documents across the world, from the French rallying call of "*liberté, égalité, fraternité*" through to the U.N. Universal Declaration of Human Rights (1948, Article 7), the European Convention for the Protection of Human Rights and

<sup>5</sup> Furthermore, the within-condition correlations between equality and the difference in point allocation were not significant except for one correlation opposite to the predicted direction ( $r = .36$ ,  $p = .05$ , in Experiment 1's typical instantiation condition). These results provide additional argument against Pathway A.

Fundamental Freedoms (1950, Article 14), and individual national constitutions, such as Amendments XV and XIX of the Constitution of the United States of America (1787/1992). Yet, legal materials and social psychological research have shown that it can also be conceptualized in diverse ways, ranging from perspectives that emphasize equality of outcomes to perspectives that emphasize equality as a function of needs or inputs. In this way, the value of equality is a good example of value instantiation more generally, which involves a range of complex judgments and decisions. Although complex deliberations about values are also found in daily life, the cognitive system often brings values to bear in a seemingly effortless fashion. This suggests the possible use of heuristics (see Newell & Simon, 1972; Tversky & Kahneman, 1974) in value-based decisions. Relevant to this hypothesis, several authors have previously sought to make a case for moral heuristics (e.g., Baron, 1993; Sunstein, 2005; see also Hahn, Frost, & Maio, 2005), such as the distinction that is made between acts of omission and acts of commission. Baron and colleagues (e.g., Haidt & Baron, 1996; Spranca, Minsk, & Baron, 1991) found that participants judge individuals more harshly for an act of commission than for an act of omission, even given the involvement of the same principles. That is, with the same issues at stake and, in effect, the same decision to be made, the way that a moral choice is instantiated can elicit different decisions (Baron, 1992).

However, the main difficulty in establishing moral heuristics is that of finding a standard of correctness against which moral outcomes can be judged. Absolute standards of moral rationality are notoriously difficult to obtain (Harris, 1986; Pojman, 1998; Seedhouse, 2002). So, in the above illustration, one might question whether omissions and commissions are not relevantly dissimilar, as evidenced by the fact that the criminal legal systems of many countries make sophisticated and subtle distinctions between acts of commission and omission (see Bennett, 1981). However, our findings would seem to make a clear-cut case for which any kind of rational justification would be difficult to establish. It cannot be normative to display differing amounts of egalitarian behavior merely as a function of prior exposure to a fictitious episode, in particular as this exposure fails to modulate in any way participants' overt perceptions of the relevance and importance of these values. In fact, participants explicitly indicate that the value of equality is highly important, central, and relevant; that they have sympathy for the individual involved; and that they feel they should use the value of equality in their decision making. Yet, with all these variables being equal, the typicality of the instantiation of the value plays a significant role in participants' subsequent behavior in a task that presents strong incentives to be discriminatory. Even within cognitive psychology, which has concerned itself extensively with typicality, the focus has been on effects of typicality on the processing of the instantiation itself (e.g., Battig & Montague, 1969; Rosch, 1973; Stuss et al., 1983); there has been no research on the effects of typicality on a subsequent processing situation.

Although the present experiments show that instantiations of a value affect its application to a subsequent situation, it would be useful for future research to further expand this demonstration beyond the intergroup context. The value of equality can be applied to different individuals defined by group membership at an intergroup level or to individuals defined within relationships at an interpersonal level. In the present research, both variables occurred

at the intergroup level (i.e., there was discrimination against a person because of group identity in both variables). In future research, both variables could be manipulated at the interpersonal level (e.g., using familial relationships). The role of instantiation should be similar at both levels. A typical instantiation of the value of equality in either case should provide more compelling support for subsequent egalitarian behavior.

The findings also add to prior research that examined the effects of elaborating reasons for a value on subsequent pro-value behavior (Bernard et al., 2003; Maio et al., 2001). That is, such reasons will have a significantly weaker (or null) effect when they feature an atypical instantiation. This result indicates that Maio et al.'s (2001) finding of increased pro-value behavior following concrete instantiations occurred because participants in their research spontaneously thought of a typical instantiation (Rosch, 1975). In other instances, people might not be guided to think of typical instantiations. For example, some intervention strategies seek to increase corporate citizenship by getting people to think about the importance of helpfulness (Maignan, Ferrell, & Hult, 1999; McAlister & Ferrell, 2002), but people's typical thoughts about this value may have more to do with charities and people in need than colleagues at work or the role of the corporation within society. As a result, such interventions may be less effective than other approaches.

This is not to suggest, however, that atypical instantiations should be ignored or dismissed as unimportant. In contrast, they may function as important testing grounds for people's use of the principle because they show how far an ideal may or may not be stretched. If people discover that the atypical instantiation can be covered plausibly, then the value may be expanded to include this instantiation, and its reach as a guiding principle would be significantly increased. What remains to be discovered is whether or when atypical instantiations can function in this way. This issue is particularly salient when addressing atypical forms of discrimination (e.g., ageist or sizeist issues). Currently, typical forms of discrimination are often prohibited in legislation, but there is no specific legislation against less typical forms of discrimination. Yet some of these less typical forms are very prevalent within society. For example, research has shown that obese people experience more employment discrimination than nonobese people (Rothblum, Brand, Miller, & Oetjen, 1990) and that employers are unwilling to hire overweight people even if their weight would not have affected their performance in their job (Roe & Eickwort, 1976). Touster (2000) suggested that fatness is stigmatized in society and yet oppression of fat people is not viewed as illegitimate oppression (see also Crandall & Biernat, 1990). It is likely that this view occurs because treatment of overweight versus thin people is not as often perceived as an issue of equal opportunity (see McVittie, McKinlay, & Widdicombe, 2003, for a related discussion of ageism). It may be useful to encourage the contemplation of values across diverse situations because the contexts within which values are actually relevant on a daily basis will not always correspond to people's typical instantiations of those values.

In sum, it is not simply the case that values make decisions easier. Consistent with the quotation at the beginning, values are stronger guides for behavior when they are held clearly in mind than when they are not (Maio et al., 2001). However, the present research indicates that this guidance is dependent on the salient instantiation of the value and that people may be entirely unaware

of the impact that prior value instantiations can have on their own behavior. This impact of instantiation adds an important caveat to the overarching role of values as rigid guiding principles. If an abstract trans-situational guiding principle is used in different ways depending on its prior instantiation, this severely restricts its universal nature. The present research makes clear that value instantiations are vital and unique components of values, distinct from the existence of values at the higher, abstract level, but exerting a powerful impact on subsequent value-relevant behavior.

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