

# Feeling Certain: Gut Choice, the True Self, and Attitude Certainty

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Decisions need not always be deliberative. Instead, people confronting choices can recruit their gut feelings, processing information about choice options in accordance with how they feel about options rather than what they think about them. Reliance on feelings can change what people choose, but might this decision strategy also impact how people evaluate their chosen options? The present investigation tackles this question by integrating insights from the separate literatures on the true self and attitude certainty. Four studies support a process model by which focusing on feelings (vs. deliberation) in choice causes people to see their true selves reflected in those choices (Studies 1 and 2), leading to enhanced attitude certainty (Study 3) and advocacy on behalf of that attitude (Study 4) while offering robustness checks and accounting for alternative explanations throughout. Discussion of these findings highlights the opportunity for new insights at the intersection of feeling-focused decision making, attitudes, and the true self.

*Keywords:* feelings, attitudes, decision strategy, choice, true self

Feeling-based choice—by which people consult intuitive, gut feelings in processing information in order to make a decision—has witnessed a surge in both empirical attention and prescriptive benefits over the course of the past several decades. Evidence continues to mount in favor of feeling-based approaches in the interest of helping people to make more accurate and more satisfying choices (Mikels, Maglio, Reed, & Kaplowitz, 2011; Wilson et al., 1993). The present investigation leverages insights from the separate literatures on attitudes and the self to examine both upstream (seeing one's true self reflected in choices) and downstream (attitude certainty) consequences that result from making feeling-based choices. Our account (a) predicts and finds that the use of feelings in choice fosters attitude certainty, (b) relates feelings to certainty through the mechanism of evoking the decision maker's true self, and (c) documents an application of feeling-derived attitudinal certainty to decision making.

## Feelings and Choice

Despite the preponderant assumption, both normative (Janis & Mann, 1977) and as espoused by some lay theories (Hsee, Yang,

Zheng, & Wang, 2015), that reasoning through choices in a considered, deliberative manner affords the optimal approach to decision making, investigations into feeling-focused choice have argued for the role and value of this latter decision strategy in the interest of arriving at the best choice. These findings apply to a host of definitions of the “best choice.” Experimenters have quantified and examined the “best choice” not only as the choice that they have rigged to be the optimal option (Dijksterhuis, Bos, Nordgren, & van Baaren, 2006; Mikels et al., 2010, 2011) but also as alignment with expert opinion (Wilson & Schooler, 1991) and accurately predicting future outcomes (Dijksterhuis, Bos, Van der Leij, & van Baaren, 2009). Evidence in this thread is not limited to accuracy. Instead, reliance on feelings also helps decision makers more readily align not only with what prescriptive models would argue that they should choose (Dijksterhuis et al., 2006) but also with what they themselves are most likely to find to be in their own best interest or most subjectively satisfying (Mikels et al., 2011; Wilson et al., 1993). None of this is to say that a focus on feelings affords a unilateral boon in decision making—indeed, separate instances abound whereby feelings undermine optimality in choice (the ratio bias provides but one example; Denes-Raj & Epstein, 1994; Mikels, Cheung, Cone, & Gilovich, 2013; Pacini & Epstein, 1999)—but only that, under the right circumstances, feelings can confer a benefit in choice.

The present investigation isolates as its focus one specific type of choice: reliance upon gut feelings in processing decision-relevant information (as contrasted with a reliance upon deliberation). Emotions have been posited as playing a crucial role in the process of making any decision (Damasio, 1994), warranting consideration thereof (specifically with respect to heightened vs. dampened utilization) in choice processes (cf. Shiv, Loewenstein, Bechara, Damasio, & Damasio, 2005). Rather than targeting specific emotions as inputs into choice, we examine emotion through the theoretical lens of the affect heuristic (Slovic, Finucane, Peters,

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This article was published Online First September 10, 2018.

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This research was supported by the Social Sciences and Humanities Research Council of Canada. The authors thank Nishita Agrawal, Kylie Boyle, Crystal Braganza, Bethany Larmour, Samira Omar, Alison Ramsundar, and Jennifer Ryu for support with the execution of the studies.

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& MacGregor, 2002, 2007). It proposes that decision makers tag choice options according to the degree of overall positive or negative feelings that those choice options (e.g., the attributes defining them) evoke in the individual. Attesting to the ecological validity of this heuristic, Finucane, Alhakami, Slovic, and Johnson (2000) found that people often rely on their feelings when asked to judge the risk of common everyday hazards (see also Loewenstein, Weber, Hsee, & Welch 2001) by consulting not what they *thought* or they *knew* about those hazards, but rather how they *felt* about the information presented to them.

Taken together, a large swath of findings has championed emotion (or lampooned deliberation) in advocating for how to help people make more accurate or more satisfying choices (Carmon, Wertenbroch, & Zeelenberg, 2003; Darke, Chattopadhyay, & Ashworth, 2006; Mikels et al., 2010, 2011; Wilson et al., 1993). Despite the preponderance of such evidence supporting the prescription to “go with your gut” in optimizing choice, the upstream outcomes of feeling-focused choice have garnered less empirical attention. Accordingly, the current investigation integrates insights from the separate literatures on the self (specifically, the true self) and attitudes to develop a model that predicts not only more proximate, immediate consequences for feeling-based choice but also downstream, behavioral consequences.

### The True Self

An independent domain of inquiry has defined and mapped the concept of the *true self* (Strohming, Knobe, & Newman, 2017). This particular facet of the self, believed at the level of folk conceptualization to be situated at an inwardly deep and core, fundamental level, is where resides the essence of the individual, unwavering in its character and values. It is contrasted with how the actual self might outwardly, waveringly think or act depending on different situations (Bargh, McKenna, & Fitzsimons, 2002; Higgins, 1987). People by and large believe that everyone possesses a true self that is inherently virtuous and moral (Newman, De Freitas, & Knobe, 2015) and that, in contrast to the outward, actual self often seen as under explicit, conscious control, manifests automatically and nonconsciously (Andersen, 1984; Andersen & Ross, 1984). People can vary in the extent to which they feel connected to their true selves or see their true selves revealed in their choices, with implications for the thoughts and behaviors that follow (Baumeister, 1991; Schimel, Arndt, Banko, & Cook, 2004; Schimel, Arndt, Pyszczynski, & Greenberg, 2001). To illustrate, a more strongly felt connection with this true self as the force guiding choices makes life seem more meaningful (Schlegel, Hicks, Arndt, & King, 2009), and people espouse a lay theory that adhering to the prescriptions of this true self enables better and more satisfying decisions (Schlegel, Hicks, Davis, Hirsch, & Smith, 2013). Thus, regardless of whether the true self exists as a scientific reality (see Strohming et al., 2017), it merits consideration insofar as (a) people espouse a lay belief in it, (b) we might identify novel contributors by which to see it as having been elicited, made all the more relevant by the fact that (c) seeing it in action predicts meaningful outcomes.

How feelings relate to one's own true self remains a largely open question. While the notion that people are what they feel has received some consideration (Kramer, 1993; Rogers, 1961), experimental exploration has painted a more nuanced picture, often

as ascertained from the vantage point of an observer diagnosing the true self of another person. In one series of studies, Johnson, Robinson, and Mitchell (2004) parsed not between feeling and thinking but, more broadly, between mental states and actions, finding that individuals see the chronic mental states of others as more representative of the true selves of those others than chronic action tendencies. This research suggests that, in appraising others, that which is stable and consistent tends to be seen as most diagnostic of the true self. Separately, in their quest to see the true selves of others as fundamentally good, observers will identify others' true selves as being in action wherever they see goodness prevail over badness. Thus, when observers who oppose homosexuality were told that a target person's thoughts drew him to homosexuality but his feelings drew him away, those observers saw the target's feelings as more diagnostic of his true self; if feelings drew toward homosexuality and thoughts drew away, then the true self was seen as operating through the latter (Newman, Bloom, & Knobe, 2014). Though speaking most directly to the tendency people have to flexibly deploy their recognition of the true self in others to fit with their idiosyncratic perceptions of morality, this investigation also revealed a secondary main effect by which the true self of another person tends to be seen as residing in feelings.

The present investigation builds from these perceptions of the true selves of others to investigate how individuals see their own choices as reflective of their true selves as a function of focusing on deliberation or feelings. Toward this end, in a departure from previous research (Newman et al., 2014), we attempt to hold constant the content of advice offered by thoughts versus feelings in order to isolate the extent to which the outcomes of these decision strategies per se are appraised as diagnostic of the decision maker's own true self (rather than that of another person). Our hypothesis—that a focus on feelings (vs. deliberation) in decision making will tend to be interpreted as more reflective of individuals' true selves—derives from conceptualizations of affective reactions. Confined within the self, and divergent from thoughts, feelings are often seen as reflecting an automatic, stable, and innate property of oneself: “We trust our reactions, we believe that they are ‘true’ and that they accurately represent an internal state or condition . . . allow[ing] us to doubt everything except our own feelings, especially the feelings of doubt” (Zajonc, 1980, p. 157). Our feelings generally reflect our selves, our selves are generally seen as stable (Quoidbach, Gilbert, & Wilson, 2013; but see also Strohming & Nichols, 2014), and stability may well be where the true self lies (Johnson et al., 2004).

These linkages hinge on the first phrase from the quote above—“We trust our reactions”—and the prevalent usage of affect as information suggests that this by and large operates as the norm. Affective reactions tend to be trusted as providing an efficient and valid snapshot of the world at large (Clare, Gasper, & Garvin, 2001; Clare & Huntsinger, 2009). This is evidenced in the default binding of emotional reactions to the contents of thought at the time the emotion is experienced (the affective immediacy principle; Clare, Wyer, Jr. et al., 2001). People utilize their affective reactions as providing cognitive feedback regarding those thought contents that informs ongoing and future thoughts and actions, with positive affect affirming salient patterns of thought and negative affect sounding the signal to change course (Huntsinger, Isbell, & Clare, 2014). However, just because people tend to trust

their affective reactions in judgment, this need not always be the case, as evidenced in the tendency to report greater life satisfaction on sunny days—provided that people are not first asked to report on the weather (attributing their positive mood to temporary weather conditions and not to their stable circumstances) prior to making their rating (Schwarz & Clore, 1983, 2003). In much the same way, we propose that people should tend to associate affective reactions with the true self but that reliance on feelings in choice should operate as sufficient rather than necessary in order to see the true self in operation.

### Attitude Certainty

People thus not only believe that they possess a true self but also that this core, essential true self provides consistent insight into how best to think and act. What might result from consulting this type of a compass? Because people see the true self as unwavering across different times and circumstances, what it prescribes or what derives from it should be the same regardless of context (“The real me only eats organic . . .”) in contrast to the actual self (“ . . . but today I’m having Taco Bell”). To extend the compass analogy, the actual self might point in different directions on different days, but the true self reliably points in the same direction regardless of which way the wind blows (Johnson et al., 2004). As a result of this consistency, people should feel more certain about their attitudes regarding chosen options that reflect their true selves. Said differently, we hypothesize that evocation of the true self—via a focus on feelings—will generate more certain attitudes with respect to choice outcomes.

People not only form evaluations (in the form of evaluative attitudes) but also evaluate those evaluations. This latter, metacognitive perspective has suggested that attitudes can vary in the certainty with which they are held (as a marker of attitude strength; Barden & Tormala, 2014; Petty & Krosnick, 1995; Tormala, 2016). What fosters a sense of certainty regarding attitudes (i.e., the sense of having a clear, correct understanding of one’s attitude; Petrocelli, Tormala, & Rucker, 2007)? Recent conceptual work has parsed the antecedents of attitude certainty into four categories: accurate information, complete information, relevant/important/legitimate information, and subjective experience (Rucker, Tormala, Petty, & Briñol, 2014). Given the aforementioned characteristics defining the true self, we propose that consultation with and evocation of this source of information in the formation of an attitude reflects a constellation of these four determinants of attitude certainty. The original source noted that “perhaps the most fundamental aspect of a piece of information, in terms of assessing its impact on attitude certainty, is whether that information is attitude-relevant” (Rucker et al., 2014, p. 124). Whereas the relevance of some information often varies (e.g., knowing the height of another person should matter little in forming an attitude regarding his suitability to work in a kitchen but quite a bit in an attitude regarding his suitability for the NBA), knowing that it was prescribed by the true self—in which people hold a high degree of faith (e.g., the compass pointing in the right direction, Newman et al., 2015)—suggests that it should always be seen as a relevant, important, and legitimate source of information. In this sense, the true self is relevant across many different situations much in the same way as completeness and accuracy of information (the compass always pointing in the same, correct direction). As a result,

choosing in line with the true self may facilitate a better subjective experience (i.e., “feel right;” Cesario, Grant, & Higgins, 2004) and, in turn, bolster attitude certainty. This confluence of connections between the true self and inputs to attitude certainty (multiple appraisals; Rucker et al., 2014) informs our hypothesis that evocation of the true self in decision making should lead people to be more certain in their attitudes regarding chosen options.

### The Present Investigation

Accordingly, our process model integrates multiple research streams to hypothesize that a focus on feelings in decision making will cause individuals to see their chosen options as more aligned with their true selves (Studies 1 and 2), which will account for the certainty of their attitude toward chosen options (Study 3), in turn predicting real behavior deriving from that choice-related attitude (Study 4). We support the basic pathways hypothesized in our model, connecting feeling-focused choice to evocation of the true self, attitude certainty, and action.

Throughout, we construct the choice options (specifically, the attributes defining them) in a manner that does not favor one particular option from the set (in a departure from, e.g., Dijksterhuis et al., 2006; Mikels et al., 2010), as we focus on consequences for attitudes independent of selecting an objectively correct answer. Similarly, we do not construct our choice options such that one particular option better appeals to participants choosing based on feelings while another option better appeals to participants choosing based on deliberation (Shiv & Fedorikhin, 1999). We are not concerned with how people make tradeoffs between these and other qualitative differences in options as a function of decision strategy but, instead, how the decision strategy that people adopt in choosing from sets in which no such tradeoffs exist might still shape their postchoice attitudes. This approach predicts no difference between what people (i.e., our participants) choose while still allowing differences in decision strategy (i.e., focusing on feelings vs. deliberation) to differentially evoke their true selves (and, in turn, attitude certainty) independent of any sense of accuracy or fit between the decision strategy and particular choice attributes designed to appeal thereto. The final sample size for each experiment was based on consideration of prior, conceptually related work (i.e., Mikels et al., 2010) and each new experiment conducted as part of the present investigation. In each of our experiments, we sought to maximize power by collecting as many responses as possible but as limited by the data collection method. All four studies received approval from the respective research ethics committees, we report all manipulations and conditions for each study, and we had no data exclusions.

### Study 1: Feelings Evoke the True Self

Our first study was designed to provide initial evidence for the first pathway in our overall model: That feeling-based choice, more than deliberative choice, evokes the true self. Accordingly, we utilized a straightforward, explicit manipulation of decision strategy to create three experimental conditions (reliance on feelings, reliance on deliberation, and a no-manipulation control condition) before presenting participants with a choice between two options (DVD players) designed to be equally appealing. That is, we did not want our experimental conditions to create differences

in the outcome chosen—only in how participants appraised chosen options, vis-à-vis the true self, after deciding. While research to date has suggested that people have a general sense that they (as well as others) possess a true self, we wanted to ensure that our participants understood the construct to which we referred in our outcome variable. Therefore, in asking participants to rate the extent to which their chosen DVD player reflected their true self, we presented them with a formal definition thereof (quoted directly from Schlegel et al., 2013, and in contrast to the actual self, p. 544).

## Method

Ninety participants were recruited throughout Toronto, Canada and asked to complete a brief research study related to decision making. They were asked to imagine that they had gone to purchase a new DVD player, having narrowed their choice set to two options.

Participants were randomly assigned to a condition instructing them to evaluate the DVD players using their “deliberative, rational analysis,” using their “intuitive, gut feeling,” or receiving no explicit instruction as to decision strategy. This manipulation of decision strategy was adopted from previous research on feeling-based choice (Mikels et al., 2010). They were then presented with information about the two DVD players: a Sony and a Philips DVD player. Each DVD player was defined by four attributes, two of which were identical (having a progressive scan video output and a 1080p video input). An additional attribute described the player’s price (Sony: \$69.99; Philips: \$64.99), and each player possessed a final attribute that was nonalignable across the DVD players (Sony: “Precision cinema progressive technology [that]

delivers smooth, true-to-life images;” Philips: “Dolby digital and DTS decoding for cinematic sound quality”).

After learning about the DVD players, participants chose the one that they preferred. Subsequently, to assess the extent to which the choices reflected their true selves, participants were presented with the following question: “According to scientists, the true self represents who a person really is *inside*, whereas the actual self represents how a person *outwardly* behaves. To what extent do you think the DVD player you chose reflects your true self?” They responded on a scale ranging from 1 (*not at all*) to 7 (*very much*). Finally, they were debriefed and dismissed.

## Results and Discussion

**Preliminary analysis.** The specific DVD player chosen did not vary as a function of decision strategy,  $\chi^2(2, N = 90) = .34$ ,  $p = .84$ , suggesting that any differences observed between the decision strategy conditions cannot be attributed to item-specific features of chosen options. Table 1 presents choice frequency data across the different choice options as a function of experimental condition for this and all of the studies reported in the present investigation.

**Primary analysis.** Seeing the true self in one’s choice of DVD player varied as a function of decision strategy,  $F(1, 87) = 4.11$ ,  $p = .020$ . Post hoc analyses revealed that focusing on feelings evoked the true self in choice significantly more ( $M = 4.63$ ,  $SD = 1.19$ ) than did deciding deliberately ( $M = 3.57$ ,  $SD = 1.79$ ,  $p = .010$ ,  $d = 0.70$ , 95% CI [0.17, 1.21]) or without explicit instructions ( $M = 3.70$ ,  $SD = 1.66$ ,  $p = .024$ ,  $d = 0.64$ , 95% CI [0.12, 1.15]). Evocation of the true self in the latter two conditions did not differ ( $p = .74$ ). These results suggest that

Table 1  
Choice Frequency as a Function of Condition Across Studies

|                      | Sony         | Philips      |              |              |
|----------------------|--------------|--------------|--------------|--------------|
| Study 1              |              |              |              |              |
| Deliberation         | 22           | 8            |              |              |
| Feelings             | 21           | 9            |              |              |
| Control              | 23           | 7            |              |              |
|                      | Mug A        | Mug B        | Mug C        |              |
| Study 2              |              |              |              |              |
| Material             | 14           | 11           | 16           |              |
| Experiential         | 13           | 17           | 17           |              |
| Black and white      | 9            | 19           | 13           |              |
| Color                | 18           | 9            | 20           |              |
|                      | Rental A     | Rental B     | Rental C     | Rental D     |
| Study 3              |              |              |              |              |
| Deliberation         | 32           | 18           | 31           | 26           |
| Feelings             | 29           | 16           | 41           | 22           |
| Heightened true self | 31           | 13           | 40           | 23           |
| Control              | 30           | 21           | 32           | 25           |
|                      | Restaurant A | Restaurant B | Restaurant C | Restaurant D |
| Study 4              |              |              |              |              |
| Deliberation         | 12           | 9            | 4            | 5            |
| Feelings             | 11           | 12           | 4            | 3            |



relying on feelings in making a decision causes the individual to see her/his true self in that choice to a greater extent than that which results from relying on deliberation. That a control condition did not differ from the latter in evocation of the true self suggests that our effect is not driven by deliberation per se or any potential confounds associated with it (e.g., that explicit instruction to focus on a “deliberative, rational analysis” causes participants to be more critical or skeptical of their choices). Instead, this finding is consistent with the claim from Wilson et al. (1993, p. 335) that “people who analyze reasons do not have lower confidence in their preferences than control subjects” (see also Wilson, Dunn, Kraft, & Lisle, 1989; Wilson & Schooler, 1991) while still allowing the possibility that feeling-focused choice, as a distinct process, might bolster attitude certainty. Still, a different, less explicit manipulation that fosters a focus on feelings versus deliberation in choice would go yet further in speaking against other alternative explanations. We pursue this objective—while also considering a potential boundary condition to the relationship between a focus on feelings and evocation of the true self—in the next study.

## Study 2: Material Versus Experiential Choices

Does feeling-focused choice always evoke the true self to a greater extent than deliberative choice? Study 2 sought to advance this question in three ways. First, Study 2 utilizes a novel manipulation of decision strategy to evoke reliance on feelings or deliberation in decision making: presentation of the choice options in color versus black and white, respectively. This operationalization derives from sensory richness facilitating affective processing (e.g., Pham, Faraji-Rad, Toubia, & Lee, 2015, Study 3) in addition to shared associates of color imagery and affective processing (e.g., both tied to the present over the future; Chang & Pham, 2013; H. Lee, Fujita, Deng, & Unnava, 2017).

Second, consideration of the attributes defining the options in Study 1 might suggest that they appeal more to the material properties of the options, though they were not designed as such. Conversely, prior research has suggested that people appraise experiential purchases as more reflective of who they truly are compared with material purchases (Carter & Gilovich, 2012).

Akin to attribution manipulations in the affect-as-information literature (e.g., Schwarz & Clore, 1983), if participants attribute a sense of having evoked their true selves as a result of having made an experiential choice independent of decision strategy, then a focus on feelings (vs. deliberation) should only bolster evocation of the true self for material goods. Accordingly, Study 2 separately manipulated whether the features of the options emphasized their material or experiential qualities. Study 2 considers a novel decision domain (travel mugs) that allowed us to pursue both objectives, presenting the mugs in color versus black and white and also either describing the characteristics differentiating the mugs in material (volume, insulation material) or experiential (ease of cleaning, comfort in hand) terms.

Third, we include two outcome variables to consider possible alternative explanations. First, because Study 2 was conducted using an electronic format, we assessed at the choice stage not only what participants chose but also how long it took them to make their choice in order to consider any potential differences between our experimental conditions as a proxy for the effort invested or difficulty in making the choice. Additionally, Study 2 includes an

outcome measure in order to examine whether the impact of feeling-focused choice on evocation of the true self operates independent of mere liking (i.e., attitude valence) for the chosen item.

## Method

Eighty-eight participants (73% female) were recruited through a posting on a public Facebook page and asked to complete a brief online research study related to decision making. They were told that they would be shown descriptions of three different travel mugs and that their task was to choose the one that they preferred.

On the subsequent page, all participants saw three travel mugs, each defined by five attributes. Participants were randomly assigned to condition in a 2 (Presentation: Black and White vs. Color)  $\times$  2 (Attributes: Material vs. Experiential) between-subjects design. In the material conditions, two of the attributes were identical (having a BPA-free plastic lid and being dishwasher safe); the other attributes included price (Mug A: \$25; Mug B: \$29; Mug C: \$29), volume (Mug A: 16 ounces; Mug B: 22 ounces; Mug C: 20 ounces), and insulation type (Mug A: vacuum; Mug B: foam; Mug C: vacuum). In the experiential conditions, two of the attributes were identical (having a spill-proof lid and being easy to clean); the other attributes included whether it came with a free sample of instant coffee (Mug A: yes; Mug B: no; Mug C: no), how long it kept drinks warm (Mug A: 4 hr; Mug B: 8 hr; Mug C: 6 hr), and its comfort in the hand (Mug A: high; Mug B: medium; Mug C: high). The mugs were either presented in black and white (to prompt more deliberative choices) or in color (to prompt more feeling-based choices). After learning about the mugs, participants chose the one that they preferred. All of these measures—the information describing the mugs as well as the choice itself—were presented on one page, and the electronic software used to present the experimental materials surreptitiously recorded how much time participants spent on this page.

On the next page, they responded to two questions, presented in random order: “To what extent does the mug you chose reflect your true self—who you really are *inside*?” and “How much do you like your mug?” both on a scale from 1 (*not at all*) to 7 (*very much*). Finally, they provided basic demographic information and were debriefed and dismissed.

## Results and Discussion

**Preliminary analysis.** The specific mug chosen did not vary as a function of attributes,  $\chi^2(2, N = 88) = .95, p = .62$ , but it did differ as a function of presentation,  $\chi^2(2, N = 88) = 7.68, p = .02$  (see Table 1). However, this may simply be the result of having used a different set of mugs in the black and white and color conditions (see Figure 1).

**Primary analyses.** We subjected ratings of the true self as seen in the chosen mug to a 2 (Presentation: Black and White vs. Color)  $\times$  2 (Attributes: Material vs. Experiential) analysis of variance (ANOVA). In a departure from our expectations, we observed main effects of both presentation,  $F(1, 84) = 6.87, p = .010, d = 0.55, 95\% \text{ CI } [0.12, 0.97]$ , as well as attributes,  $F(1, 84) = 3.40, p = .069, d = 0.38, 95\% \text{ CI } [-0.05, 0.80]$ , but no interaction between the two,  $F < 1, p = .72$ . Instead, participants saw their true selves reflected significantly more in their choice of



Figure 1. Travel mugs used in Study 2. Note. The top row depicts the three mugs displayed in the black and white (i.e., deliberation decision strategy) condition. The bottom row depicts the three mugs displayed in the color (i.e., feeling-focused decision strategy) condition.

travel mug from a set presented in color ( $M = 3.91$ ,  $SD = 2.11$ ) than in black and white ( $M = 2.85$ ,  $SD = 1.70$ ) and also from a set describing experiential ( $M = 3.77$ ,  $SD = 1.94$ ) over material ( $M = 3.02$ ,  $SD = 2.01$ ) attributes.

A similar pattern of results obtained for the liking variable, with a main effect of attributes,  $F(1, 84) = 6.71$ ,  $p = .011$ ,  $d = 0.55$ , 95% CI [0.11, 0.97], but there was neither an effect of presentation,  $F(1, 84) = 2.10$ ,  $p > .15$ , nor an interaction between the two,  $F < 1$ ,  $p = .50$ . Participants liked their mug more when choosing from a set framed as experiential ( $M = 5.34$ ,  $SD = 1.24$ ) over material ( $M = 4.63$ ,  $SD = 1.37$ ).

In light of these differences in liking, we reran our first analysis, predicting evocation of the true self with the addition of liking as a covariate (ANCOVA). In addition to a significant effect of liking,  $F(1, 83) = 32.07$ ,  $p < .001$ , the main effect of presentation held,  $F(1, 83) = 4.60$ ,  $p = .035$ , while the effect of attributes did not,  $F < 1$ ,  $p = .59$ , and the interaction remained absent,  $F < 1$ ,  $p > .99$ . We observed no main or interaction effects by which the conditions differed in how long participants took to make their choices,  $F_s < 1$ ,  $p_s > .7$ , and all of the earlier results remain virtually unchanged when adjusting for this decision timing measure (ANCOVA). Finally, we conducted a series of regression analyses. In a first block, we regressed only main effects (of presentation, attributes, and reaction time [RT]) on evocation of the true self, yielding main effects of presentation and attributes in the first block,  $p_s < .08$ . In a second block, we added to the model all possible two-way interactions among our three variables, yielding only a main effect of presentation ( $p = .02$ ). In a third block, we added the three-way interaction among all variables, yielding no significant relationships,  $p_s > .2$ . Thus, Study 2 generally provides evidence against an alternative account that would reveal a difference in the amount of time it takes participants to select a mug: that no differences emerged between our experimental conditions in how long participants took to make their choice suggests,

by proxy, that effort and difficulty presumably did not differ between the conditions either (and cannot account for our main effect; see also similar analyses for Study 3).

We had predicted a moderating effect of attributes on the relationship between a focus on feelings (vs. deliberation) and evocation of the true self. Instead, Study 2 revealed an additive effect whereby not only color (vs. black and white) presentation (designed to manipulate decision strategy) but also experiential (vs. material) attributes bolstered the extent to which participants saw their true selves reflected in their chosen travel mugs. While these results are consistent with our general hypothesis (that feelings more effectively evoke the true self), why might our hypothesized moderation have failed to obtain? One possible explanation for this additivity—a finding of which we were unaware at the time Study 2 was conducted—is that people tend to adopt an intuitive, feeling-focused decision strategy when making a choice among experiential (vs. material) goods (Gallo, Sood, Mann, & Gilovich, 2016). Thus, our experientially framed mugs might have encouraged greater reliance on feelings—and, in so doing, more effectively been seen by participants as having evoked the true self.

That we observed such an increase from the material to the experiential frame not only among participants in the black and white condition but also in the color condition suggests that the latter might not have been at ceiling throughout in their reliance on feelings. Perhaps this resulted from the fact that Study 2 used a subtler (and potentially weaker) manipulation of presentation (color) relative to the more overt manipulation used in Study 1. Nonetheless, this subtler manipulation of decision strategy precludes a number of alternative explanations for the present investigation, including demand effects or the explicit instructions to focus on feelings causing participants to process the decision-relevant information in a shallower manner (e.g., paying less attention, considering fewer pieces of information, being less critical).

Finally, Study 2 assessed not only decision time but also liking for the chosen item. Though the effects of condition on liking were similar to the effects on evocation of the true self, adjusting for liking did not compromise the relationship between presentation (color vs. black and white) and evocation of the true self. This suggests that, while travel mugs chosen via feelings may be liked slightly more than deliberatively chosen mugs (though only directional and not statistically significant), such liking operates independent of the robust relationship between feeling-focused choice and evocation of the true self. Of note, the same cannot be said of experiential (vs. material) framings, as this factor dropped below statistical significance upon adjusting for liking. So, while the two experimental manipulations in Study 2 may have had an additive effect on evocation of the true self, they may have done so through different pathways, with decision strategy exerting a direct effect and decision attributes exerting an effect through liking (consistent with Carter & Gilovich, 2012, Study 5). Drawing limited conclusions from the unexpected results of this study, our next experiment was designed in order to allow for direct manipulation of the extent to which the choice domain was attributed to the true self while also relating decision strategy to attitude certainty.

### Study 3: Manipulating Attribution

Study 3 seeks to address an additional pathway in our process model, speaking to the mediating role of evocation of the true self in relating decision strategy to attitude certainty. In pursuit of this objective, we arrived at a moderation-of-process design (Spencer, Zanna, & Fong, 2005) in which we orthogonally manipulated both decision strategy (deliberation vs. feelings) and the extent to which participants attributed decisions in the particular choice domain to their true selves (heightened vs. control). Specifically, when making a choice absent of any additional information (control condition), we would predict a direct consequence of the results of Study 1: greater attitude certainty upon deciding based on feelings over deliberation. However, upon learning that choices in a given domain are diagnostic of one's true self (heightened true self condition), people should attribute any specific choice within that domain to the true self and report high certainty in their attitude toward that particular chosen outcome regardless of decision strategy. Thus, Study 3 moves the present investigation forward in considering not the extent to which choices evoke the true self but, instead, the attitude certainty regarding chosen options hypothesized to derive therefrom. Finally, as in Study 2, we assessed how long it took participants to make their choice as a proxy for the effort or difficulty in making the choice.

### Method

Two-hundred and fifteen participants (41% female) were recruited from the Mechanical Turk platform hosted by Amazon to participate in a study related to decision making and for which they were paid \$0.50. They were told that they would be shown descriptions of four different apartment rentals and that their task was to choose one. As a first experimental factor (in a manner identical to Study 1), participants were randomly assigned to a condition that explicitly instructed them to make their decision based upon deliberation or feelings.

On the subsequent page, they were presented with information about the four apartment rentals using a grid format adapted from previous research (Mikels et al., 2011). This grid displayed the names of the four apartment rentals (A, B, C, and D) at the top of four separate columns and the six attributes defining the apartments as six separate columns; the apartment-specific attributes were displayed in the cells at which the apartment columns inter-

sected with the attribute rows (see Figure 2 for the grid setup as well as the specific features defining each apartment rental). After learning about the apartments, participants chose the one that they preferred. As in Study 2, the electronic software used to present the experimental materials surreptitiously recorded how much time participants spent on this page.

After confirming their choice, participants were randomly assigned to a condition designed to vary the extent to which they might attribute their choice to their true selves. Participants in the heightened true self condition were told that we had asked them to make a choice about apartment rentals "because where people choose to live says a lot about their true self (who they really are inside);" participants in the nonheightened control condition were simply thanked for making their choice. Thereafter, all participants were asked "How certain [they were] of [their] opinion about the rental [they] chose" on a scale from 1 (*not at all*) to 7 (*very*). Finally, they provided basic demographic information and were debriefed and dismissed.

### Results and Discussion

**Preliminary analysis.** The specific apartment chosen did not vary as a function of decision strategy,  $\chi^2(3, N = 215) = 1.98, p = .58$ , suggesting that any differences observed between the decision strategy conditions cannot be attributed to item-specific features of chosen options (see Table 1). Although choice variation would not be expected as a function of true self attribution (because choice preceded the manipulation), we confirmed this to be the case,  $\chi^2(3, N = 215) = 2.87, p = .41$ .

**Primary analyses.** We subjected ratings on the attitude certainty measure to a 2 (Decision Strategy: Deliberation vs. Feelings)  $\times$  2 (True Self Attribution: Heightened vs. Control) analysis of variance (ANOVA). We observed neither a main effect of decision strategy nor of true self attribution,  $F(1, 211) < 2.18, ps > .14$ , while an interaction between the two did emerge,  $F(1, 211) = 4.04, p = .046$ . As illustrated in Figure 3, among participants who chose the apartment rental in the control condition, those who decided based on feelings were more certain of their attitude toward it ( $M = 5.85, SD = 0.93$ ) than those who decided deliberately ( $M = 5.31, SD = 1.32$ ),  $F(1, 211) = 5.76, p = .017, d = 0.47, 95\% \text{ CI } [0.09, 0.85]$ . Among participants made to see any apartment rental choice as highly reflective of the true self, attitude certainty was equally high among those choosing based on

|                     | Rental |      |      |      |
|---------------------|--------|------|------|------|
|                     | A      | B    | C    | D    |
| Size                | big    | big  | big  | big  |
| Neighborhood safety | safe   | safe | safe | safe |
| Appliance quality   | good   | good | good | poor |
| On-site laundry     | yes    | no   | yes  | yes  |
| Water pressure      | poor   | good | good | good |
| Cost                | low    | low  | high | low  |

Figure 2. Decision grid used in Study 3.

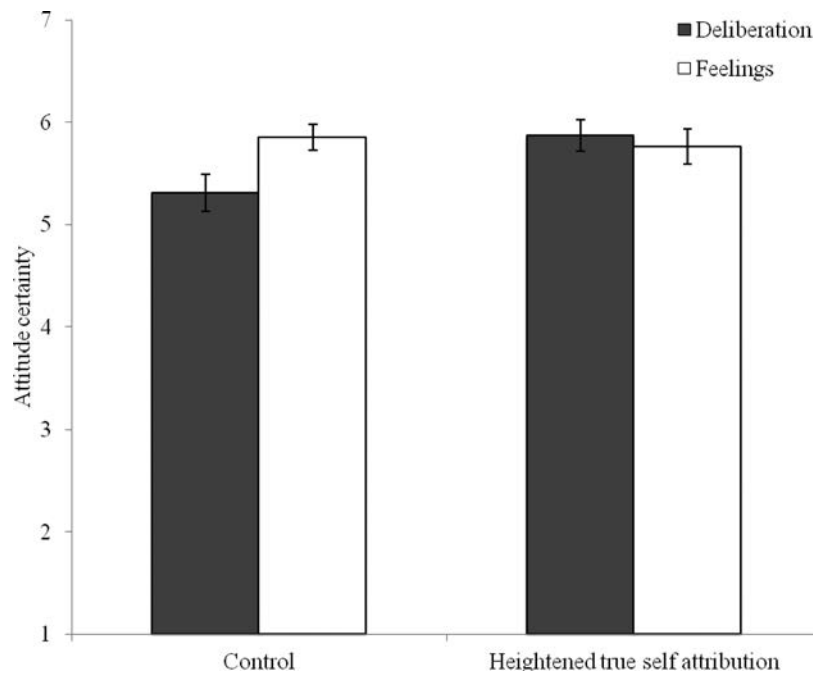


Figure 3. Attitude certainty as a function of decision strategy and true self attribution in Study 3. Note. Bars represent standard error.

feelings ( $M = 5.76$ ,  $SD = 1.28$ ) and those choosing deliberately ( $M = 5.87$ ,  $SD = 1.10$ ),  $F < 1$ ,  $p = .65$ .

We observed no main or interaction effects by which the conditions differed in how long participants took to make their choice,  $F_s < 1$ ,  $p_s > .31$ , and all of the earlier results remain virtually unchanged when adjusting for this decision timing measure (ANCOVA). Finally, we conducted a series of regression analyses. In a first block, we regressed only main effects (of decision strategy, true self attribution, and RT) on attitude certainty, yielding no reliable relationships ( $p_s > .15$ ). In a second block, we added to the model all possible two-way interactions among our three variables, yielding reliable relationships for true self attribution ( $p = .005$ ) and its interaction with decision strategy ( $p = .044$ ). In a third block, we added the three-way interaction among all variables, itself statistically unreliable ( $p = .57$ ), while the relationships in the second block were preserved ( $p_s = .009$  and  $.071$ , respectively). Accordingly, the moderation-of-process design in this study moves the present investigation forward in supporting an account based on evocation of the true self independent of choice effort or difficulty.

#### Study 4: From Certainty to Advocacy

Whereas the first three studies unpacked the connections between feeling-based choice and evocation of the true self and attitude certainty, our final study underscores the relevance of this relationship by examining a downstream consequence of feeling-derived attitude certainty. Using a consequential, incentive-compatible design, Study 4 asks participants to choose among ostensibly real restaurants before assessing their willingness to publicize their choice. We devised this empirical approach through the lens of attitudinal advocacy, or the degree to which people

share their attitude and attempt to persuade others to adopt it. An attitude held with greater certainty tends to receive stronger advocacy (Akhtar, Paunesku, & Tormala, 2013; Cheatham & Tormala, 2015; Krosnick, Boninger, Chuang, Berent, & Carnot, 1993; Rios, Wheeler, & Miller, 2012; Visser, Krosnick, & Simmons, 2003), though the relationship between the two can follow a nonlinear path (Cheatham & Tormala, 2017). Accordingly, Study 4 asks participants to share their choice with members of their social network and with a consequential benefit of doing so. If, as we predict, attitude certainty causes participants to more fervently advocate on behalf of their feeling-based choices, then they should more willingly share those choices with others—especially if sharing benefits the choice they made.

#### Method

Sixty undergraduate students (62% female) were recruited for a lab-based study related to decision making and for which they received course credit. They were told that they would be shown descriptions of four different, ostensibly real restaurants and that their task was to choose one. Additionally, they were told that the experimental team had partnered with Living Social, a web company that offers daily coupons for goods and services (e.g., \$25 worth of credit at a store for an upfront cost of \$10). Participants were told that, because of this partnership, they would receive not only course credit for their participation but also the chance to receive some number of \$25 gift certificates toward the restaurant that they chose (which ostensibly was offered by Living Social for \$10). We chose Living Social as the ostensible partner for this study because of its unique structure that includes a social aspect in addition to the base coupon. After people purchase a deal outright (i.e., spend \$10 for a \$25 certificate), they have the option



to attempt to have their initial purchase compensated by promoting the deal that they purchased to others via e-mail: If at least three of the people they notify purchase the same deal, the person will be compensated for his or her original purchase. Pilot testing confirmed that this promotional design was familiar among our undergraduate population.

Accordingly, participants were told that after choosing one of the four restaurants, they would have the option to share their offer with as many others as they desired. For each unique e-mail address provided, the experimenter would send a unique link to that person informing the recipient that the participant had just chosen that restaurant and was providing the recipient with the opportunity to purchase a deal for that restaurant (\$10 for a \$25 certificate). We ensured participants that, while their names would accompany the e-mail notifications, we would only use the e-mail addresses for the purpose of sharing the deal. Participants were told that we would provide them with one (free) \$25 gift certificate to their chosen restaurant for every three of their provided contacts that ultimately purchased the deal.

As in Studies 1 and 3, participants were randomly assigned to a condition in which they were instructed to make their decision based upon deliberation or feelings. As in Study 3, they were presented with information about the four restaurants using a grid format, with two changes in the interest of robustness testing (and consistent with Mikels et al., 2011). First, the four restaurants were each defined by 12 pieces of information (e.g., "is clean," "has celebrity guests"). Second, during the information presentation phase, the attributes were presented one column (i.e., restaurant) at a time for 10 s each and in serial order. After learning about the restaurants, participants chose the one that they preferred.

Thereafter, participants were reminded of the opportunity to share the offer with others and were provided with blank text boxes, into which they were free to enter as many e-mail addresses as they wanted. Finally, they provided basic demographic information and were debriefed and dismissed. The debriefing confirmed that all participants believed the experimental setup to be real and made clear that none of the provided contacts would actually receive an e-mail offering the deal. After all data had been collected, one participant was chosen to receive a \$25 cash card; he or she was encouraged to spend it on a restaurant.

## Results and Discussion

**Preliminary analysis.** The specific restaurant chosen did not vary as a function of decision strategy,  $\chi^2(3, N = 60) = .97, p = .81$ , suggesting that any differences observed between the decision strategy conditions cannot be attributed to item-specific features of chosen options (see Table 1).

**Primary analysis.** The number of e-mail addresses provided by participants varied as a function of decision strategy,  $F(1, 58) = 4.97, p = .030$ . Specifically, focusing on feelings in choosing the restaurant resulted in more e-mail addresses being shared ( $M = 1.93, SD = 2.13$ ) than deciding deliberatively ( $M = .83, SD = 1.66$ ),  $d = 0.58$ , 95% CI [0.05, 1.08].

**Secondary analysis.** Because the data were characterized by a tendency for all participants to offer zero e-mail addresses (57%), we considered whether the tendency to provide any e-mail address varied as a function of experimental condition. To do so, we constructed for each participant a dummy variable to indicate

whether he or she listed at least one e-mail address (yes = 1; no = 0). Few participants in the deliberation condition offered any e-mail addresses (30%), whereas the majority in the feelings condition offered at least one (57%). A binary logistic regression confirmed that participants in the feelings condition were significantly more likely to offer at least one e-mail address,  $\chi^2(1) = 4.402, b = 1.116$ , odds ratio = 3.051,  $p = .04$ . Taken together, Study 4 suggests that feeling-based decision making fosters attitude certainty toward chosen options in a manner capable of encouraging advocacy for those choices.

## General Discussion

In making decisions, choosers must decide not only *what* they will choose but also *how* they will choose. Whereas a mounting literature has explored how the latter predicts the former (e.g., accuracy; Mikels et al., 2011; Pham, Lee, & Stephen, 2012; or indulgence; Shiv & Fedorikhin, 1999), the present investigation targets only the latter—the *how* of choice processes—to provide new insights into the psychology underlying feeling-focused choice. Across four studies, focusing on feelings in processing decision-relevant information led participants to hold more certain attitudes toward and to advocate more strongly for their chosen options, the result of an upstream connection between a focus on feelings and felt evocation of the true self.

In light of the burgeoning perspective championing the necessity of feelings in choice (Damasio, 1994), the literature on feeling-focused decision making is replete with examples of instances in which it—as contrasted against deliberation—should be adopted in the interest of making not only accurate but also consistent, satisfying choices (Darke et al., 2006; L. Lee, Amir, & Ariely, 2009; Mikels et al., 2011; Wilson et al., 1993). In strategically isolating the *how* of decision processes (decoupled from the *what* describing systematic shifts toward specific options), we hope to advance an approach that examines differences in decision strategy beyond simply what people choose. By relating the construct of the true self to the role of feelings in choice, the present investigation suggests that individuals focusing upon feelings in decision making do indeed come to see their chosen options as more consistent with what is essential, true, and unwavering about themselves. Thus, the present investigation adds to the literature on feeling-focused choice by moving not just upstream (to the emergent conceptualization of the true self) but also downstream (to attitude certainty and advocacy).

In attesting to the relevance of the true self in judgment and decision making (including, as here, but not limited to its correspondence with attitude certainty), we note potential points of overlap—and then important points of differentiation—between the true self and other constructs. Most saliently, it has been argued that people possess inherent preferences such that they should ultimately prefer certain offerings even in the absence of conscious awareness of or direct experience with them. To illustrate, a person might harbor, unbeknownst to her/himself, preference for a pillow that is neither too firm nor too soft but somewhere in between at a preconscious level before ever resting her/his head on any pillow (Simonson, 2008). The person in this scenario has no prior experience with any pillow and, as such, the inherent preference is only salient after the person uses the pillow. In contrast, our studies considered only choice domains in which the participants had,

ostensibly, a modicum of familiarity (e.g., mugs to drink from), contexts in which the true self could be made manifest independent of the discovery of a theretofore-latent preference for specific things or attributes characterizing those things. Tu and Hsee (2016) proposed an alternative take, proffering a role for evolutionary value (e.g., minimal conditions of warmth necessary for survival) in defining inherent preferences. This perspective necessitates the superiority of specific outcomes (e.g., a warm cave over a freezing lake), whereas the present investigation probed choice consequences independent of specific options (the *what* of decision making) selected (as evidenced by the absence of a difference in which options participants chose as a function of decision strategy). Taken together, we conclude that people appraise their true selves in a manner distinct from theorizing on inherent preferences.

We believe that the present investigation opens the door to future work poised to examine a focus on feelings in choice capable of moving further upstream or still further downstream. To the former, we note that the relationship between feelings (broadly defined) and attitude certainty need not operate solely through evocation of the true self. People often interpret easier, more fluent access to attitudes as evidence that their attitudes are more certain (Tormala, Petty, & Briñol, 2002). As a result, an attitude quickly expressed is often an attitude held with certainty (Tormala, Clarkson, & Henderson, 2011). In advancing a distinct process model, the present investigation provided evidence against a mere quickness-of-choice heuristic, revealing a nearly identical amount of time taken to make decisions across conditions (Studies 2 and 3). Insofar as taking more time to make a decision reflects greater difficulty in making that decision, the absence of a difference between participants choosing based on feelings versus deliberation supports a unique role for evocation of the true self above and beyond alternative explanations (e.g., counterfactual thinking; Hafner, White, & Handley, 2012). Expediting the decision process (e.g., Ambady & Rosenthal, 1992) might similarly bolster attitude certainty, underscoring the fertile ground for future work at the intersection of decision strategy, affect-as-information, and attitudes (Huntsinger, 2011; Huntsinger & Smith, 2009).

Yet further upstream, the inclusion of the true self in our process model suggests that feeling-focused choice should only foster more certain attitudes under circumstances in which feelings or the decision context are believed to be capable of reflecting the true self. Whereas Studies 2 and 3 used attribution manipulations intended to document how deliberation, under the right circumstances, could also showcase the true self, separate circumstances might instead preclude any decision strategy from producing a choice reflective of the true self. For instance, we have suggested that decision makers prove capable of appraising choices for themselves as diagnostic of their own true selves. However, because people approach choices for others in a qualitatively different way than choices for the self (Polman & Emich, 2011; Polman & Vohs, 2016), perhaps any decision made on behalf of another person would prove incapable of seeming to evoke the true self of the chooser. Separately, because people believe the true self to be a good, moral agent (Newman et al., 2015), it remains possible that they would refuse to see their true selves as being in action when forced to choose from a set of bad or immoral alternatives (Kruger, Burrus, & Kressel, 2009). Lastly, at the level of personality, people vary in their proclivity to situate their true selves in their rationality

versus their emotions (Adam, Obodaru, & Galinsky, 2015; Fetterman & Robinson, 2013), pinpointing a clear individual difference that may well moderate our effect.

Turning downstream, we await the promise of future work to consider how attitude certainty deriving from affective versus deliberative processing in choice (cf. Edwards, 1990; Edwards & Von Hippel, 1995) might predict other immediate judgments regarding choices. If participants were more willing to share the e-mail addresses of their friends in the service of their choice (Study 4), perhaps they would also, for instance, report a higher reservation price for a gift certificate for that restaurant. Further, the findings from the present investigation might be brought to bear on behavior vis-à-vis chosen options over a longer, extended time horizon (i.e., durability and impact; Krosnick & Petty, 1995).

## Conclusion

We offer what we believe to be a novel and unique approach to the question regarding how people come to hold their attitudes in the first place. Though people may indicate that they have a certain attitude toward something, they often cannot articulate the means by which they arrived at that appraisal (see Nisbett & Wilson, 1977). Our findings suggest that a feeling-focused approach to choice may evoke the true self, foster attitude certainty, and beyond. In decades past, reliance upon feelings in decision making had been cast in a largely negative light, accused of compromising choice outcomes. More recently, feeling-focused decisions have been shown to lead to better choice outcomes—*what* people choose—with relatively little consideration for other consequences resulting from *how* people choose. The present investigation champions reliance on feelings in choice by pinpointing not *that* it has a role to play (e.g., in enhancing choice accuracy), but *why* that role matters in seeming to evoke individuals' inscrutable true selves and cultivating more certain attitudes.

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Received March 20, 2018

Revision received June 11, 2018

Accepted June 13, 2018 ■