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Seeing the World Through Humility-tinted Lenses: Exploring Social Cognitive Explanations for Outcomes of Humility

Chayce Baldwin

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SEEING THE WORLD THROUGH HUMILITY-TINTED LENSES: EXPLORING SOCIAL COGNITIVE EXPLANATIONS FOR OUTCOMES OF HUMILITY

By
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Submitted to Brigham Young University in partial fulfillment of graduation requirements for University Honors

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ABSTRACT

SEEING THE WORLD THROUGH HUMILITY-TINTED LENSES:
EXPLORING SOCIAL COGNITIVE EXPLANATIONS FOR OUTCOMES OF HUMILITY

Chayce R. Baldwin
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Past research on humility has focused largely on describing the *what* of humility, but has made little headway in terms of explaining the *why* of humility. In describing humility, psychological research has accrued evidence suggesting that humble people are more prosocial and characterized by low self-focus. One group of researchers has even described humility as the core value that “binds society together” (Worthington et al., 2017, p. 3). Understanding *why* humble people act differently may help provide insight into the essence of humility and what factors can help solve important social issues and, indeed, “bind society together”. One reason why humble people may act differently than less humble people is that they see the world through different “lenses”—they perceive and interpret how they relate to others and the world around them differently, and subsequently interact with them differently. In the present research I seek to explore this possibility by asking, “Do humble people see the world differently than non-humble people? Do they interpret situations differently, and thus react differently?” I examine the social cognition, or “lenses”, that may help explain the ways in which humble people subsequently react and behave. Results and implications of three types of social cognition for humble behavior—patterns of relational judgment, implicit theories, and patterns of value judgment—are discussed.
I wish to express my sincere and deep gratitude to Dr. Dianne Tice and the time, concern, and mentoring she has provided to me throughout my undergraduate degree. Her incredibly kind and encouraging nature, thoughtful insights, and wise teaching have made me a better student, researcher, and person. She has been a great example of humility to me— influencing my learning, my directions in research, and the character I would like to develop in myself.

Additionally, I am thankful for the mentorship of Sam Hardy. I will always be grateful for his consistent mentoring efforts: introducing me to psychological research, providing abundant opportunities to conduct and present research, believing in my ability to grow and succeed, and always having patience with me along the way.

I am also grateful for the mentors and teachers I have had at and outside of BYU, including Bob Ridge, Joe Olsen, Chongming Yang, Hal Miller, Shannon Brady, Greg Walton, and Mark North, to name a few. The amalgamation of thoughtful advice, time taken to teach and instruct, answered questions, and concern for my success and welfare has shaped how I think, my beliefs and passions, and who I have become.

Last, I would like to express my appreciation for my wife, Jessi. Throughout my time conducting this project and exploring humility, as well as during the late nights and long semesters of our undergraduate careers, she has stood beside me, encouraged me, and lifted me up. She inspires me to become the best I can be in scholarship, in research, and in life.
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SEEING THE WORLD THROUGH HUMILITY-TINTED LENSES:
EXPLORING SOCIAL COGNITIVE EXPLANATIONS FOR OUTCOMES OF HUMILITY

In recent years, research surrounding humility has burgeoned. As questions surrounding humility have become increasingly popular in the fields of positive and social psychology, a growing literature has highlighted the influence of humility in prominent aspects of life such as well-being (Toussaint & Webb, 2017), interpersonal relationships, prosocial behaviors (Hilbig, Zettler, & Heydasch, 2012), and self-control (De Vries et al., 2013). Many researchers studying humility see it as a virtue and as a vital social characteristic: Worthington et al. (2017), for example, called humility “the core of [the] cluster of values that bind society together” (p. 3), and Templeton (1997) called humility the “the key to progress” (pg. 30). However, a consensus of exactly what these researchers mean by “humility” has yet to be met. Indeed, excitement for growing research into humility has been met with frustration as researchers experience difficulty, uncertainty, and mixed success in the struggle to understand exactly what humility is and how it should be measured.

Though there are various ways in which researchers define humility, many definitions include some aspect of following three characteristics: an accurate, honest assessment of the self, modest-self presentation, and a focus of attention outside of one’s self (i.e. other-orientation as opposed to self-orientation) (Davis et al., 2011; Tangney, 2000; Worthington et al., 2017). Quiros (2012) defines humility as “a perception that focuses primarily, but not exclusively, on the value of the non-self” (p. iii). An openness to other’s ideas and beliefs (sometimes called intellectual humility; Davis et al., 2016;
Leary et al., 2017) has also often been conceptualized as a primary component of humility. Consistent with these characterizations, humility is often modeled as an other-oriented virtue. Accordingly, it has been associated with prosocial traits and behaviors such as agreeableness and conscientiousness (Lee & Ashton, 2004), cooperation (Hilbig et al., 2012), and helpfulness (Exline & Hill, 2012; Labouff, Rowatt, Johnson, Tsang, & Willerton, 2012).

 Despite this easily palatable conceptualization of humility, however, ascertaining a fundamental definition in which one can have much confidence is more difficult than it may seem. Often, the best estimates that can be devised are more descriptive than they are explanatory. For example, Templeton (1997) describes humility as involving open-mindedness, a willingness to admit mistakes and seek out advice, and a desire to learn. Another descriptive study, assessing relationships between the personality traits of the HEXACO personality inventory, reported a moderate correlation between honesty-humility and openness to experience (Lee & Ashton, 2004). Some researchers have described humility as an emotion, something that is experienced momentarily and fleeting (Saroglou, Buxant, & Tilquin, 2008), whereas others have described it as a stable personality trait (Kesebir, 2014). Still others have described it in terms of forms in which it seems to manifest, such as “a hypoegoic state” (Kruse, Chancellor, Ruberton, & Lyubomirsky, 2014) or an accurate assessment of one’s abilities and strengths (Tangney, 2000).

 While these descriptions of humility may be helpful in understanding characteristics of humility and identifying specific outcomes and behaviors associated with humility, an investigation into why humble people act the way they do is needed in
order to more fully understand the bases of the construct, its development, and how it can be promoted. Moreover, despite the innately social and interactive nature of humility, to my knowledge, no research has been conducted to explicitly investigate the social cognitive mechanisms, or patterns of social thinking, that underlie the link between humility and humble behavior. A social cognitive perspective of humility would provide new avenues for explaining humility, understanding the origins of humble attitudes, and manipulating and promoting humility.

Social cognition is how individuals perceive, interpret, and respond to social information, or in other words, how individuals interpret and react to the social world around them (Fiske & Taylor, 2013). Thus, a social cognitive perspective of humility would suggest that humility is not something that an individual has, or an emotion that they experience, but rather a lens through which they interact with the world and others around them. This possibility may be efficacious as an explanation for the link between humility and humility-induced behavior—instead of describing the correlation between an attitude or behavior with some trait-distinction of humility, the way in which a humble person sees and interprets the world differently would then dictate how they might react to it. Moreover, this model may provide a viable new direction for manipulating humility: if the social cognitive mechanisms that underlie humility are identified, then advances in and successful behavioral change techniques developed through social psychological interventions (see, for example, Walton & Wilson, 2018) can more readily be employed to alter individuals’ social cognitive perspectives and the lenses through which they interact with the world and others around them.
The Present Research

In the present research, I define humility by two criteria: 1.) low self-focus, and 2.) a balanced view of self and other: having an accurate sense of self relative to other. These two criteria are common, and if not explicit, implicit in many definitions of humility. In regard to the first criterion, for example, self-focused states are often described as pride (i.e. inflated sense of self) or shame (i.e. deflated sense of self; e.g. Tracy & Robbins, 2004). Additionally, few, if any, conceptualizations of humility allow for high levels of self-focus within their definitions. Quiros (2012), Tangney (2000), and Kruse et al. (2014), respectively, characterize humility as a “focus. . . on value of the non-self” (p. iii), a “forgetting of the self”, and “a hypoegoic state” (p. 74) (i.e. low self-focus). Similarly, an imbalance between valuation of the self and other is generally associated with pride, shame, or other non-humble states. Means, Wilson, Sturm, Bion, and Bach (1990) described humility as “an increase in the valuation of others and not a decrease in the valuation of oneself” (p. 214), and, in addition to low self-focus, Tangney (2000) characterizes humility as involving “an accurate assessment of one’s abilities and achievements” and understanding “one’s place in the world” (p. 73).

I hypothesize that in context of these two characteristics of humility, there are three types of mechanisms that may play a role in explaining the perspective and mindset experienced by humble people:

1. Patterns of how you see yourself relative to others (relational judgment)
2. Beliefs about how you relate to the world around you (implicit theories)
3. Patterns of value judgment of self and other (value judgment)
Relational Judgment

For the purposes of this study, relational judgment will refer to patterns of how individuals see themselves relative to others. Within relational judgment, patterns of comparative judgment will refer to the process of making judgments about competence, status, or how one fits into one’s environment based on how one compares to others. This process has long been studied in psychology, extending back to social comparison theory (Festinger, 1954). Research has shown that individuals use social comparison in order to gain information about their own abilities, but also for enhancement of the self (such as through downward comparison; e.g. Marsh, 1986). However, no research has been conducted to evaluate the relationship between tendencies toward social comparison and humility.

How might tendencies toward comparative judgment be related to humility? Variations in comparative judgment may stem from an individual’s level of self-focus; individuals with high self-focus may be more apt to compare others’ competencies or status to their own, and focus on how things outside of themselves—other people, ideas, etc.—relate or compare to themselves. Individuals low in self-focus, in contrast, may see and interact with things outside of themselves in terms other than how they directly relate to the self.

Additionally, the quality of individuals’ relational judgments, not just the frequency of such judgments, may vary with humility. When individuals see themselves as equal to others, for example, they may be more interested in finding similarities with others than differences. On the other hand, those that have unequal views of self and other may be more likely to seek out discriminating information, motivated to find
differences between self and other. Moreover, greater self-focus, and subsequently interpreting the world in context of self, may promote discriminate judgment and comparison between self and other.

**Implicit Theories**

Individuals’ beliefs about how they relate to the world around them may also play an important role in how humble people perceive and interact with the world around them. Social psychologists have identified a number of important belief systems that permeate throughout individuals’ lives, and these systems may also play a part in explaining humility. Research has demonstrated that individuals’ beliefs about the malleability of themselves and the world around them affect the way they interpret adversity (Yeager et al., 2016), create social judgments and perceive other people (Dweck, Chiu, & Hong, 1995), and are motivated to learn and grow (Dweck, 1999). These beliefs have been coined “implicit theories”, because they are individuals’ unconscious (i.e. implicit) beliefs (i.e. theories) of how they relate to the world around them. Three prominent types of implicit theories have been identified by Carol Dweck (1999): implicit theories of intelligence, implicit theories of personality, and implicit theories of world. Together, these implicit theories provide a mindset focused on growth, malleability, and possibility as opposed to a mindset focused on fixedness, innate ability, and rigidity (Dweck, 1999). Although the underlying ideas are similar, the impact of these beliefs on behavior may be more situation-specific. For example, a growth mindset of intelligence may be important for improving learning in school, where a growth mindset of personality may be important for reducing prejudice, and a growth mindset of world may be important for dictating how one interacts with societal issues, such as
poverty and homelessness (Dweck et al., 1995). Importantly, growth-oriented theories place value in expanding the self, whereas fixed theories, involving beliefs that important personal factors like intelligence and personality are unchangeable, place value on self-preservation and protection (Dweck, 1999).

These characteristics may highlight similarities between outcomes related to implicit theories and humility. As self-focus increases, fixed thinking and a focus on self-protection may also increase. For example, higher self-focused individuals may be less prone to seek out alternative viewpoints, as well as new and differing ideas, which may lead to more fixed thinking. Moreover, as an individual’s self-focus increases, so may their perceived importance of self, making them less likely to be open to change, more likely to interpret change as risky, and allocate resources to protect the self.

**Value Judgments**

Value judgments refer to patterns of assigning value to self and other. In this research, I consider three manifestations of value judgments that may vary with humility: judging deservedness of others versus self (entitlement), global value judgments (judgments of others’ morality), and global trait judgment (generalizing behavior to others’ character). Feelings of entitlement can be described as judging self- and other-deservedness — judging what the self deserves relative to other people. Both a heightened self-focus and discrepancies between value of self and other may contribute to entitlement. First, when individuals are focused more on the self and develop a heightened sense of self-importance, they may be more likely to judge that the self is more deserving than others. Second, if a person has an egalitarian view of self and other,
that is, they do not value themselves above others, then, in any given situation, they are less likely to judge that they are more deserving than another person.

Similarly, the extent to which individuals make global value judgments may vary with humility. Past research has shown that an entity (fixed) theory of personality predicts more extreme judgment—that is, individuals with an entity theory of personality employed more absolute, extreme judgments toward others, despite whether the judgments were good or bad (Dweck et al., 1995). Humility may be similar, in that humbler individuals may employ more moderate and less extreme judgments. Additionally, humility may be associated with less global judgment—judging one behavior as indicative of who a person is more generally—because of similar less fixed views.

In summary, ways in which individuals see themselves relative to others, their beliefs about how they relate to the world around them, and patterns of value judgment and assignment may be important social cognitive processes that underlie humility and the worldview and “lenses” that lead to humble behavior.

In this study, the relationship between each of these social cognitive factors and humility will be assessed using measurements of intellectual humility. As defined by McElroy et al. (2014), intellectual humility is “insight about the limits of one’s knowledge, marked by openness to new ideas”. Assessing intellectual humility may be important for understanding how humility impacts interpersonal behavior and is an

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1 This study is a part of a larger study that is assessing the relationship between intellectual humility and openness to opposing views. Herein, intellectual humility, rather than general humility, is used as the main independent variable.
important subdomain of humility for creating open dialogue and cultivating understanding.

The present study seeks to test the following three hypotheses in regard to the social cognitive mechanisms described above:

1. Relational judgment: Tendencies toward comparative judgment and discriminate judgment will be negatively associated with intellectual humility.
2. Implicit theories: Implicit theories of personality, but not of intelligence or world, will be significantly associated with intellectual humility, such that intellectually humble individuals have less fixed mindsets about personality.
3. Trait judgment: Feelings of entitlement, global trait judgment, and moral judgment after being transgressed against will be negatively related to intellectual humility.

Method

Participants and Procedure

Participants were 46 undergraduates (71.7% female), whom were offered course credit in psychology courses through SONA Systems in exchange for participation. The mean age was 20.80 years ($SD = 2.39$). The sample was mostly White (84.7%), with a small proportion of other ethnicities represented (10.9% Latino/a; 2% Asian; and 2% other). The study was approved by the Institutional Review Board. Participants completed measures of intellectual humility, along with various measures of social cognitive mechanisms—comparative and discriminate judgment, implicit theories, entitlement, and trait and moral judgment. At the conclusion of the questionnaire, they completed a number of demographic items (see Appendix H). All measures can be found
in the appendices. After completing the study, participants were granted course credit proportional to time spent taking the survey.

Measures

Intellectual Humility. Intellectual humility was measured using the Intellectual Humility Scale—Self-report (McElroy et al., 2014; see Appendix A). Participants rated the extent to which they agreed with various statements on a scale of 1 (Strongly disagree) to 7 (Strongly agree). Higher scores indicate a greater degree of intellectual humility. This scale consists of two subscales: intellectual openness (e.g. “I am good at considering the limitations of my perspective”) and intellectual arrogance (e.g. “I get defensive if others do not agree with me”). Items in the intellectual arrogance subscale were reverse coded before being combined with the other items into a composite of intellectual humility. The Intellectual Humility Scale was originally developed to measure other-report of individuals’ intellectual humility. However, subsequent research has modified it to be used as a self-report scale, when other-report is not feasible (e.g., Davis et al., 2016). In the modified self-report version, participants rate themselves as the target person. Cronbach’s α was .86 for the full scale, .85 for the intellectual openness subscale, and .82 for the intellectual arrogance subscale.

Comparative judgment. Seven items created for this study were used to measure individuals’ tendencies to make comparative judgments—judging oneself relative to how one compares to others (see Appendix B). Prefaced by “I spend a lot of time thinking about…”, participants rated the extent to which they agreed with a series of statements (e.g. “…what others think of me”; “…what others might think my strengths and weaknesses are”; “…the strengths and weaknesses of others”) on a scale from 1 (Strongly
disagree) to 6 (Strongly agree). In a factor analysis, each item loaded adequately into a single factor solution, with factor loadings ranging from .41 - .95 and the single factor accounting for 51% of variance. This gives sufficient support for a single latent factor, and the seven items were aggregated into a composite score for comparative judgment. Cronbach’s α for the full scale was .86.

**Discriminate judgments.** In addition to items assessing comparative judgment, participants rated the statement “I tend to think about how others are different from me rather than how others are similar to me,” on a scale of 1 (Strongly disagree) to 6 (Strongly agree) (see Appendix B). This item acts as a measure of participants’ tendencies toward discriminatory (i.e. identifying how others are different than oneself) or similarity (i.e. identifying how others are similar to oneself) judgments.

**Implicit theory of intelligence.** Implicit theories of intelligence were measured using the 8-item Implicit Theories of Intelligence Scale (Dweck, 1999; see Appendix C). This scale assesses participants’ beliefs about whether intelligence is fixed or malleable—that is, whether intelligence is stable and innate or can be developed. Participants rated the extent to which they agree with a series of statements regarding beliefs about the malleability of intelligence on a scale of 1 (Strongly disagree) to 6 (Strongly agree). Five positively worded items (e.g. “You can always substantially change how intelligent you are”) were reverse coded and combined with the remaining items to create scale that measured an entity theory of intelligence, such that higher scores indicated greater belief that intelligence is fixed. Cronbach’s α for the full scale was .88.
Implicit theory of personality. Implicit theories of personality were measured using a 3-item implicit theories of personality scale (Dweck, 1999; see Appendix C). Similar to implicit theories of intelligence, this scale measures whether individuals believe that personality, or the kind of person one is, is fixed or malleable (e.g. “The kind of person you are is something very basic about you and it can’t be changed very much”). Participants rated the extent to which they agreed with a series of statements regarding beliefs about the malleability of personality on a scale of 1 (Strongly disagree) to 6 (Strongly agree). Higher scores indicated greater belief that personality is fixed. Cronbach’s α for the full scale was .88.

Implicit theory of world. Three items were combined into a composite to measure implicit theories of world (Dweck, 1999; see Appendix C). This measure assesses participants’ beliefs about whether the world and society we live in is fixed or malleable (e.g. “Our world has basic or ingrained dispositions, and you really can’t do much to change them”). Participants rated the extent to which they agreed with a series of statements regarding the malleability of the world on a scale of 1 (Strongly disagree) to 6 (Strongly agree). Cronbach’s α for this measure was .91.

Entitlement. Judgments and reactions based on assessments of deservedness or entitlement were measured using six items rated by participants in response to three vignettes (see Appendix D for vignettes and Appendix E for items). The vignettes were taken from the Transgression Narrative Test of Forgivingness (TNTF; Berry, Worthington, Parrott, O’Connor, & Wade, 2001). These vignettes detail situations where an offender has hypothetically transgressed against the participant, and the participant is asked to imagine how they would feel in and react to that scenario. Each situation details
a transgressor who is clearly in the wrong (e.g. a fellow student who asks for your help on an essay assignment, but ultimately plagiarizes your paper). Following each vignette, participants rated four statements measuring judgments of other-deservedness (e.g., “They don’t deserve my help”) and two statements measuring emotional reactions (“I would be offended”; “I would be angry”) on a scale of 1 (Strongly disagree) to 5 (Strongly agree). One item, “I would be offended,” assessed following the first vignette did not significantly correlate with any other item, and was dropped from further analysis. Assessments of this item after the second and third vignettes were retained for analyses. Factor analysis demonstrated that a single factor solution was adequate, with each item loading onto one factor between .45 and .78, and a single factor accounting for 42% of variance. A composite score was calculated by averaging the remaining 17 items. Taken together, these items were used as an index of entitlement, such that higher scores indicated a greater espousal of entitled judgments and emotions. Cronbach’s alpha was .87 for items measuring judgments of other-deservedness, .78 for items measuring emotional reaction, and .89 for the full composite.

Trait judgment. One item was used to measure global trait judgment, rated by participants after each TNTF (Berry et al., 2001) scenario, as described above (see Appendix E). Participants rated the item “How indicative do you think this scenario is of this person’s general behavior?” on a scale of 1 (Not at all indicative) to 5 (Very indicative). Measurement of trait judgment following the first vignette did not significantly correlate with measurements after the second and third vignettes ($r = -.02$ and .03, respectively), and thus was excluded from further analyses. Measurements of trait judgment following the second and third vignettes were averaged into a composite
score of trait judgment, such that higher scores indicated a greater judgment of the behavior as generalizable and representing a global trait.

*Moral judgment.* One item used to measure moral judgment was also rated by participants after each TNTF scenario (see Appendix E). Participants rated the item “Based on this behavior, how would you rate them as a person?” on a scale of -5 (*Very bad*) to +5 (*Very good*). Responses were reverse coded, such that higher scores indicated harsher moral judgment of the person described in each scenario. The responses to each scenario were combined into a composite score of moral judgment. Cronbach’s α for the items across scenarios was .63.

*Social desirability.* To measure social desirability bias, this study used the Balanced Inventory of Desirable Responding Short Form—Revised (BIDR-16; Hart, Ritchie, Hepper, & Gebauer, 2015; see Appendix F). Social desirability bias is a type of response bias in which participants tend to answer survey questions in a way that puts them in a more positive light, such as under-reporting aggression or over-reporting helpfulness. In order to assess participants’ tendency to respond in socially desirable ways, participants rated the extent to which a series of 16 statements are true for them and their behavior on a scale of 1 (*Not true*) to 7 (*Very true*). This scale is comprised of two subscales: Self-deceptive Enhancement (honest, but over-positive responding; “I never regret my decisions”) and Impression Management (bias toward pleasing others; “I have said something bad about a friend behind his or her back”). Eight items across both subscales were reverse coded so that higher scores indicated more socially desirable (i.e. deceptive) responses. Responses for each item were aggregated into a composite score of social desirability for each participant. In past research, the BIDR-16 has shown to
adequately reduce the number of items in the BIDR, while maintaining the two-factor structure, validity, and reliability of the original 40-item scale (Hart et al., 2015). In this sample, Cronbach α was .62 for the Self-deceptive Enhancement subscale, .70 for the Impression Management subscale, and .73 for the full scale.

**Self-esteem.** The Rosenberg Self-esteem Scale was used to measure self-esteem (Rosenberg, 1965; see Appendix G). Participants rated the extent to which they agreed with a series of 10 statements about their self-esteem on a scale from 1 (Strongly disagree) to 4 (Strongly agree). Responses were aggregated into a composite of self-esteem, such that higher scores indicated greater self-esteem. Cronbach’s α for this sample was .90.

**Analysis Plan**

In order to assess the relationship of intellectual humility with social cognitive mechanisms, this study specifies a series of multiple regression models, regressing each social cognitive variable of interest on intellectual humility. Additionally, measures of social desirability and self-esteem are added to each model in order to control for the effects of these variables on each outcome. In past research, some humility scales have been shown to correlate with social desirability (e.g. Rowatt et al., 2006), and in general, humility is perceived as a positive trait. Herein, it is possible that participants may rate themselves such that they appear more humble than they actually are. Moreover, in that humility is related to a secure sense of self and positive feelings about how one relates to others, higher scores on humility may also, in part, capture participants’ self-esteem (Kruse et al., 2017; Tangney, 2000). Controlling for social desirability and self-esteem
allows this study to assess the unique relationship of intellectual humility with each outcome, independent of possible confounding variables.

**Preliminary Analyses**

**Descriptive statistics and correlations.** Univariate descriptive statistics, including number of observations, mean, standard deviation, and range for each variable of interest were computed. Additionally, bivariate Pearson correlations were computed for each pairing of variables. Univariate descriptive statistics and bivariate correlations are reported in Table 1.

**Homoskedasticity.** The multiple regression models assessed in this research assume homoskedasticity, or that the residuals of each regression model do not depend linearly on any predictor. To test this assumption, each model used in this study was assessed with a Breusch-Pagan test, using the BPTEST() function from the LMTEST package in R (Zeileis & Hothorn, 2002). The Breusch-Pagan test consists of regressing the exogenous variables of each model on the squared residual of the model, and estimating a $\chi^2$ statistic by multiplying $n$ by the $R^2$ of that model. Across models, two $\chi^2$ statistics were significant: one for the regression of discriminate judgment on intellectual humility ($p = .02$), and one for moral judgment regressed on intellectual humility ($p = .01$). This suggests that these models display significant heteroskedasticity, such that the residuals are not independent of the exogenous variables. All other $\chi^2$ statistics were not significant at the $p < .05$ level. In order to correct for heteroskedasticity, these models were computed using regression with robust standard errors. The results of these analyses are reported in the main results.
Table 1

**Descriptive Statistics and Intercorrelations**

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<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
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<tr>
<td>1. Intellectual Humility</td>
<td>46</td>
<td>4.71</td>
<td>0.78</td>
<td>1 – 7</td>
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<td>2. Comparative</td>
<td>45</td>
<td>3.71</td>
<td>0.98</td>
<td>1 – 6</td>
<td>-0.39**</td>
<td>0.23†</td>
<td>0.22</td>
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<td>3. Discriminate</td>
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<td>3.71</td>
<td>1.46</td>
<td>1 – 6</td>
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<td>0.55***</td>
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<td><strong>Implicit Theories</strong></td>
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<td>4. Intelligence</td>
<td>45</td>
<td>2.77</td>
<td>0.85</td>
<td>1 – 6</td>
<td>-0.36*</td>
<td>0.23†</td>
<td>0.22</td>
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<td>5. Personality</td>
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<td>2.78</td>
<td>1.09</td>
<td>1 – 6</td>
<td>-0.33*</td>
<td>0.42**</td>
<td>0.23</td>
<td>0.48***</td>
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<td>6. World</td>
<td>46</td>
<td>3.41</td>
<td>1.23</td>
<td>1 – 6</td>
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<td>-0.03</td>
<td>0.15</td>
<td>0.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Global Value Judgment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Entitlement</td>
<td>46</td>
<td>2.91</td>
<td>0.69</td>
<td>1 – 5</td>
<td>-0.37*</td>
<td>0.25†</td>
<td>0.20</td>
<td>0.20</td>
<td>0.57***</td>
<td>-0.08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Trait</td>
<td>46</td>
<td>3.28</td>
<td>0.89</td>
<td>1 – 5</td>
<td>-0.21*</td>
<td>0.11</td>
<td>0.08</td>
<td>0.08</td>
<td>0.49***</td>
<td>-0.11</td>
<td>0.70***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Moral</td>
<td>46</td>
<td>0.77</td>
<td>1.17</td>
<td>-5 – +5</td>
<td>-0.26†</td>
<td>0.40**</td>
<td>0.37*</td>
<td>0.27†</td>
<td>0.50***</td>
<td>0.00</td>
<td>0.52***</td>
<td>0.34*</td>
<td></td>
</tr>
<tr>
<td>10. Social Desirability</td>
<td>46</td>
<td>4.22</td>
<td>0.43</td>
<td>1 – 7</td>
<td>0.23</td>
<td>-0.29†</td>
<td>-0.10</td>
<td>0.15</td>
<td>0.18</td>
<td>-0.07</td>
<td>0.15</td>
<td>0.28†</td>
<td>0.01</td>
</tr>
<tr>
<td>11. Self-esteem</td>
<td>45</td>
<td>2.94</td>
<td>0.57</td>
<td>1 – 4</td>
<td>0.11</td>
<td>-0.32*</td>
<td>-0.25†</td>
<td>-0.15</td>
<td>-0.16</td>
<td>-0.29*</td>
<td>0.14</td>
<td>0.08</td>
<td>-0.15</td>
</tr>
</tbody>
</table>

*Note.* Descriptive statistics for and intercorrelations between each variable used in the main analyses of this study. All correlations are standardized. p < .001 = ***; p < .01 = **; p < .05 = *; p < .10 = †.
**Multicollinearity.** Because of the possibility that humility scales may capture, in part, social desirability and self-esteem of individuals, multicollinearity between these variables was assessed prior to main analyses. The function VIF() from the package CAR in R was used to assess multicollinearity (Fox & Weisberg, 2011). VIF reports variance inflation factors (VIF), which estimate the degree to which variance in the variables is being inflated by multicollinearity. In this research, multicollinearity will be considered an issue among variables if any VIF exceeds 2.5, which corresponds with an $R^2$ of .60 between exogenous variables, suggesting an unacceptable level of collinearity between variables. VIFs for the relationships between intellectual humility, social desirability, and self-esteem ranged from 1.05 to 1.11—sufficiently low, such that concern for multicollinearity was not warranted in further analyses. Additionally, in assessing bivariate correlations, intellectual humility, social desirability, and self-esteem were not significantly correlated at the $p < .05$ level.

**Results**

To test hypotheses, each social cognitive mechanism was regressed on intellectual humility using OLS regression, controlling for social desirability and self-esteem. Regression coefficients were considered significant at the $p < .05$ level. Regression coefficients are reported as standardized $\beta$ coefficients.

To test Hypothesis 1, items assessing relational judgment were regressed on intellectual humility. Intellectual humility was negatively associated with comparative judgment ($\beta = -.33, p = .02$), such that participants high in intellectual humility reported focusing less on how they compare to others than those lower in intellectual humility. Intellectual humility was also negatively correlated with discriminate judgment ($\beta = -.32,
p = .04), such that participants high in intellectual humility reported a greater tendency toward thinking about ways in which they are similar to, rather than different from, others.

Hypothesis 2, that intellectual humility would be associated with implicit theories of personality, but not implicit theories of intelligence and world, was partially supported. Intellectual humility was negatively associated with an entity theory of intelligence ($\beta = - .40, p = .007$) and personality ($\beta = - .38, p = .01$), but not with an entity theory of world ($\beta = - .20, p = .19$). Herein, those scoring higher on intellectual humility reported greater endorsement of beliefs centered around the malleability of intelligence and personality, and those scoring lower in intellectual humility endorsed more fixed views. However, views about the malleability of the world and society did not differ with intellectual humility.

Hypothesis 3, the hypothesis that intellectual humility would be negatively related with entitlement, global trait judgment, and moral judgment, was also partially supported. Intellectual humility was negatively associated with entitlement ($\beta = -.45, p = .003$) and global trait judgment ($\beta = -.30, p = .049$). Therefore, those scoring higher in intellectual humility reported fewer judgments focused around deservedness (i.e. what others deserved as a consequence of behavior), as well as less reactive emotions (i.e. taking offense, anger) following vignettes of being transgressed against. They also interpreted the transgression as less indicative of the transgressor’s behavior in general. In regard to moral judgment, an initial multiple regression model demonstrated a marginally significant effect of moral judgment regressed on intellectual humility ($\beta = -.28, p = .07$),
but after computing robust standard errors to adjust for heteroskedasticity, this relationship became nonsignificant ($\beta = -.28$, $p = .14$).

**Discussion**

In recent years, humility research has burgeoned, but a concrete understanding and consensus of what humility is and how it functions remains evasive. In order to better understand humility and how it translates into behavior, the current research proposed a novel social cognitive approach to humility, suggesting that humility may be best understood by investigating the social cognitive mechanisms that underlie the way that humble people see and interact with the world around them. This research explored three types of social cognitive mechanisms that may underlie humility: patterns of relational judgment, implicit theories, and patterns of value judgment.

Higher intellectual humility was associated with decreased comparative and discriminate judgments: those high in intellectual humility reported that they do not spend as much time focused on comparison and they spend more time thinking about similarities to, rather than differences from, others.

Additionally, intellectual humility was related with a growth mindset of both personality and intelligence; this suggests that not only do humble believe they can change and improve (i.e. implicit theory of personality), but that there is also unique merit in the potential of intellectual humility to promote a growth mindset of intelligence. This research shows that intellectually humble people believe they can continue to learn, grow, and become smarter. This is somewhat surprising, considering that implicit theories are generally domain-specific, and past research has highlighted the relationship between intellectual humility and interpersonal factors, such as interpersonal judgment,
agreeableness, and relationship-building, rather than educational or learning-oriented behavior (Leary et al., 2017; McElroy et al., 2014). However, recent research on intellectual humility has provided evidence that intellectual humility is also associated with successful patterns of learning, as well as an intrinsic motivation for learning (Krumrei-Mancuso, Haggard, LaBouff, & Rowatt, 2019). In tandem with the findings of this recent research, the findings of the present study suggest that intellectually humble individuals’ openness to new ideas may be marked by a desire for learning, growth, and self-improvement.

Intellectual humility was also related with lowered levels of entitlement and global judgment. Even in situations where they have the right to be entitled, humble people seem to find value in restraining from generalized or harsh judgment toward others. One reason humble people may demonstrate more egalitarian perspectives—and subsequently refrain from judgments that assign value disproportionately to the self—is that humility may be related to unique patterns of self-attribution. Kornilaki and Chlouverakis (2004) note that the elicitation of pride requires positive self-attribution—that is, attributing positive outcomes to oneself or one’s own behavior (see also Stipek, 1983; Weiner, 1985). Moreover, research on shame has suggested that shame involves a contrasting self-attribution, such that shame is elicited when individuals attribute negative outcomes to one’s disposition or other factors (e.g. outcomes due to lack of ability; Brown & Weiner, 1984; Weiner, 1985). In contrast, humility may involve a situation-oriented attribution, such that positive and negative self-attributions are tempered; this may subsequently lead to more situational attributions for, and less harsh judgments of, others’ behavior. However, although the present study found that humble individuals
were less likely to judge the deservedness of others or make generalized judgments about their character, their moral judgments (i.e. judgments of “good” or “bad”) did not differ significantly from less humble individuals. An attributional approach to explaining these judgments would suggest that increased situational attribution of others’ negative behavior would decrease negative moral judgment, of which this study did not find support. Thus, further research is needed to explore patterns of self-attribution related to humility, and what role this attribution may play in explaining humble behavior and judgments of others.

These findings contributed the first evidence that humility is related to a set of social cognitions that constitute a perspective, or “lens”, through which humble individuals see and interact with the world around them. Additionally, these findings provide support for the utility of considering and investigating humility in terms of the social cognitive processes that underlie it. Taken together, the relationships observed in this research seem to suggest that the “lens” through which humble people interact with the world is characterized by connection rather than distinction, as well as a focus on growth and perspective rather than self-protection and narrow-mindedness.

These findings may also suggest potential utility in using existing theories and research paradigms in social psychology to explain humility. Past research into asymmetries between how individuals perceive self and other (see Pronin, 2008) may help develop a better understanding of how humble people see themselves relative to others, how they ascribe value to themselves versus others, and patterns of attribution of one’s own and others’ behaviors related to humility. Other research, motivated by construal level theory (CLT; Trope & Liberman, 2003), has observed differences in ways
in which individuals perceive, or “construe”, information about objects and situations—either in terms of global, high-level construals or local, low-level construals. Humility may similarly involve adopting a certain construal of objects and situations, into which this line of research may provide further insight. For example, the present study suggests that humility may be marked by a broader, more abstract construal, which is focused on growth, purpose, and connection, rather than a local, more concrete construal which is focused on discriminating between unique, specific aspects of objects or events, and proximal, rather than distal, goals. Therefore, CLT may help provide a context for better understanding the scope of the humble “lens”, how various social cognitions related to humility are interconnected, and how these social cognitions may impact one another. Furthermore, an abundance of research has suggested widespread implications of adaptive implicit theories (i.e. a growth mindset), providing the possibility of similar implications and outcomes related to humility. Thus, future work is needed into how humility may be related to implicit theories and outcomes associated with implicit theories. Additionally, each of these approaches has strong traditions in experimental social psychology, such that they may provide insight into efficacious ways of experimentally manipulating the social cognition behind humility.

Post-hoc power analyses showed that while the sample size used in this study is sufficient to detect regressive effects of $\beta = .40$ or above at 80% power, it is not sufficient to detect smaller effects. However, most of the effects observed in this research were below $\beta = .40$. Therefore, for the sake of replicability and to more accurately detect all effects greater than $\beta = .30$, future replication research should be conducted using a sample size of 84 participants or more.
This research did not assess the utility of social cognitive mechanisms in explaining the relationship between humility and actual behavior. Future research should focus on understanding the ability of these factors to mediate that relationship. As a part of that effort, the present study is the beginning of a larger research program that is investigating the relationship between intellectual humility and openness to opposing views, and the role that social cognitive mechanisms play in explaining that relationship. Moreover, this research will begin a series of studies that will investigate the merit of social cognitive mechanisms in explaining the link between humility and behaviors, such as prosociality and a willingness to learn. Future research should also investigate other behaviors and social cognitions that may play a role in the humility-behavior relationship. Lastly, though this research provided a glimpse into the “black box” of the mechanisms underlying the way humble people think, it provides little on what causes people to develop this point of view. What core beliefs, experiences, and perspectives lead people to think this way? By investigating the origins of these social cognitive mechanisms and their utility for explaining real world behavior, we can begin to develop a better sense of what humility is, how it functions, and how it can be used to better the world.
References


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doi:10.2307/1163048


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Appendix A

*Intellectual Humility*

Rate the extent to which you agree with each of the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Somewhat disagree</th>
<th>Neither agree nor disagree</th>
<th>Somewhat agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I often become angry when my ideas are not implemented.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I value winning an argument over maintaining a relationship.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I always have to have the last word in an argument.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I get defensive if others do not agree with me.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I become angry when my advice is not taken.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I have little patience for others' beliefs.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I act like a know-it-all.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I often point out others' mistakes.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I make fun of people with different viewpoints.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I seek out alternative viewpoints.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I encourage others to share their viewpoints.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I enjoy diverse perspectives.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I am open to competing ideas.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I am good at mediating controversial topics.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I am good at considering the limitations of my perspective.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I am open to others' ideas.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Appendix B

Comparative and Discriminate Judgment

Rate the following statements to the extent that they are true for you.

I spend a lot of time thinking about...

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Slightly disagree</th>
<th>Slightly agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>what others think of me.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>how what I'm doing will be perceived by others.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>the strengths or weaknesses of others.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>my own strengths or weaknesses.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>what others might think my strengths or weaknesses are.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>if I am better than others.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>if others are better than me.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

I tend to think about how others are different from me rather than how others are similar to me.

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Somewhat disagree</th>
<th>Somewhat agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Appendix C

*Implicit Theories of Intelligence, Personality, and World*

*Note:* These items followed assessment of implicit theories for the self, where participants rated the statements as they believe they are true for themselves.

Now answer the same questions as you believe they are true for **people in general**. There are no right or wrong answers.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>People have a certain amount of intelligence, and they can't really do much to change it.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People's intelligence is something about them that they can't change very much.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No matter who they are, people can significantly change their intelligence.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To be honest, people can't really change how intelligent they are.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People can always substantially change how intelligent they are.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People can learn new things, but they can't really change their basic intelligence.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No matter how much intelligence people have, they can always change it quite a bit.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People can change even their basic intelligence level considerably.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The kind of person someone is, is something very basic about them and it can't be changed very much.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People can do things differently, but the important parts of who they are can't really be changed.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Everyone is a certain kind of person and there is not much that can be done to really change that.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Please indicate the extent to which you agree with each of the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Somewhat disagree</th>
<th>Somewhat agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Though we can change some phenomena, it is unlikely that we can alter the core dispositions of our world.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Our world has basic or ingrained dispositions, and you really can't do much to change them.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Some societal trends may dominate for a while, but the fundamental nature of our world is something that cannot be changed much.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>
Appendix D

Vignettes

_Note:_ Following are the three vignettes taken from the Transgression Narrative Test of Forgivingness (TNTF; Berry, Worthington, Parrott, O’Connor, & Wade, 2001). Each participant read the first vignette, answered the questions in Appendix E, and then repeated the process, answering the questions in Appendix E for the second and third vignette.

Below are a number of situations in which people might find themselves. People respond in different ways to these situations. We would like you to read each situation and imagine it has happened to you. Think about how you would respond to each situation if it were to happen to you. Then, answer the questions below.

SCENARIO 1

You are attending university, and currently taking a difficult, time-intensive class that is important for graduation. Someone you occasionally see in the class has a paper due at the end of the week. You have already completed the paper for the class and this person says he or she is under a lot of time pressure and asks you to lend him or her your paper for some ideas. You agree, and this person simply retypes the paper and hands it in. The professor recognizes the paper, calls both of you to her office, scolds you, and says you are lucky she doesn’t put you both on academic probation. Imagine that you are in such a situation, and think about how you might feel toward the person.

SCENARIO 2

A friend offers to drop off a job application for you at the post office by the deadline for submission. A week later, you get a letter from the potential employer saying that your application could not be considered because it was postmarked after the deadline and they had a very strict policy about this. Your friend said that he or she met an old friend, went to lunch, and lost track of time. When he or she remembered the package, it was close to closing time at the post office and he or she would have to have rushed frantically to get there; he or she decided that deadlines usually aren’t that strictly enforced so he or she waited until the next morning to deliver the package. Imagine that you are in such a situation, and think about how you might feel toward the person.

SCENARIO 3

You just started a new job and it turns out that a classmate from high school works there, too. You think this is great; now you don’t feel like such a stranger. Even though the classmate wasn’t part of your crowd, there’s at least a face you recognize. You two hit it off right away and talk about old times. A few weeks later, you are having lunch in the cafeteria and you overhear several of your coworkers, who do not realize you are nearby, talking about you and laughing; one even sounds snide and hostile toward you. You discover that your old classmate has told them about something you did back in school that you are deeply ashamed of and did not want anyone to know about. Imagine that you are in such a situation, and think about how you might feel toward the person.
Appendix E

Entitlement, trait value judgment, and moral judgment

Note: The following questions were asked following each vignette.

Imagining yourself in that situation, consider how it would make you feel. Then rate your agreement with the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Neither agree nor disagree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>They don't deserve my forgiveness</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They don't deserve my respect</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They don't deserve my help</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They don't deserve to be treated well by me</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

How would you respond?
I would be

<table>
<thead>
<tr>
<th>Response</th>
<th>Not at all</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>offended.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>angry.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

How indicative do you think this scenario is of this person's behavior in general?

<table>
<thead>
<tr>
<th>Indicative</th>
<th>Not at all</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Very indicative</th>
</tr>
</thead>
</table>

Based on this behavior, how would you rate them as a person?

<table>
<thead>
<tr>
<th>Rating</th>
<th>-5 - Very bad</th>
<th>-4</th>
<th>-3</th>
<th>-2</th>
<th>-1</th>
<th>0 - Neither good nor bad</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 - Very good</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Appendix F

Social Desirability

Rate the following statements as they are true for you and your behavior.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not True</th>
<th>2</th>
<th>3</th>
<th>Somewhat True</th>
<th>5</th>
<th>6</th>
<th>Very True</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have not always been honest with myself.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I always know why I like things.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It’s hard for me to shut off a disturbing thought.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I never regret my decisions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I sometimes lose out on things because I can’t make up my mind soon enough.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am a completely rational person.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am very confident of my judgments.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have sometimes doubted by ability as a lover.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I sometimes tell lies if I have to.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I never cover up my mistakes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There have been occasions when I have taken advantage of someone.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I sometimes try to get even rather than forgive and forget.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have said something bad about a friend behind his or her back.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When I hear people talking privately, I avoid listening.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I never take things that don’t belong to me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I don’t gossip about other people’s business.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix G

*Self-esteem*

Rate the following items as they are true for you.

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel that I am a person of worth, at least on an equal basis with others.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I feel that I have a number of good qualities.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>All in all, I am inclined to feel that I am a failure.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I am able to do things as well as most other people.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I feel I do not have much to be proud of.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I take a positive attitude toward myself.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>On the whole, I am satisfied with myself.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I wish I could have more respect for myself.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I certainly feel useless at times.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>At times I think I am no good at all.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Appendix H

Demographics

How old are you? Please input only a numerical value (e.g., "20" not "Twenty" or "20 years old").

Are you Spanish, Hispanic, or Latino or none of these?

○ Yes
○ None of these

Display This Question:
If Are you Spanish, Hispanic, or Latino or none of these? Yes Is Selected

Are you Spanish, Hispanic, or Latino?

○ Spanish
○ Hispanic
○ Latino

Choose one or more races that you consider yourself to be:

○ White
○ Black or African American
○ American Indian or Alaska Native

○ Asian
○ Native Hawaiian or Pacific Islander
○ Other
What is your sex?

- Male
- Female

Which socioeconomic status do you most identify with?

- Upper class
- Upper middle class
- Lower middle class
- Working class

What is your parents' combined household income?

- $150,000 or above
- $100,000 - $150,000
- $60,000 - $100,000
- $20,000 - $60,000
- $20,000 or below

Please indicate your relationship status.

- Single
- In a relationship
- Married
- Divorced
- Widowed
Is this your first semester/term of college?

- Yes
- No

Display This Question:
If Is this your first semester/term of college? No Is Selected

What is your current college GPA?

What year of school are you in?

---Select Option---

---Select Option---
1st year
2nd year
3rd year
4th year
5th year
6th year
7th year or higher
Which field is your major in?

---Select Option---

---Select Option---

- Business
- Communications
- Education
- Engineering
- Fine Arts
- Humanities
- Life Sciences
- Physical and Mathematical Sciences
- Social Sciences
- Other

What is your major?

[Text box]