To Prove or to Improve? Which Motive Distorts Perceptions of Personality Controllability?

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This research extends past work on positive illusions and self-goals by examining motivated perceptions of how much control people think they have over changing their personality traits. A self-validation motivation should cause individuals to view their personality weaknesses as uncontrollable (to avoid blame for having them) and their personality strengths as controllable (to take credit for having them). A self-growth motivation should cause individuals to view their weaknesses as controllable (to view them as improvable) and their strengths as uncontrollable (to view them as unchanging). Studies 1 and 2 find evidence for self-validation in perceptions of trait controllability. Study 3 finds this pattern to be stronger for validation-seeking individuals but weaker for growth-seeking individuals. Studies 3 and 4 find that being primed with one's successful self-improvements or one's future self can attenuate self-validation. The potential implications of distorted perceptions of trait controllability for both well-being and self-change are discussed.

Keywords: self-enhancement; controllability; malleability; improvement; validation

Contemporary psychologists suggest that it is both normal and healthy to sacrifice accuracy to view oneself favorably (Taylor & Brown, 1988, 1994; cf. Colvin & Block, 1994). Individuals often see their personalities (e.g., Alicke, 1985), behaviors (e.g., Miller & Ross, 1975), and futures (e.g., Weinstein, 1980) in inaccurate but self-enhancing ways. One of the most robust self-biases is the self-serving attributional bias (Abramson, Metalsky, & Alloy, 1989; Heider, 1958), viewing the causes of one's negative behaviors as external (not one's fault), unstable (unlikely to happen again), and specific (not generalizable to other situations). Success, on the other hand, is attributed to causes that are internal (due to one's attributes), stable (likely to happen again), and global (generalizable to other situations). For example, a student, Anne, may attribute poor test performance to an unfair exam but good test performance to her stellar intellectual abilities.

The self-serving attributional bias serves two main motivational functions. First, it allows people to feel good about the current self by taking credit for their successes and avoiding blame for their failures (Heider, 1958). For example, Anne can feel proud of being smart and take personal credit for her good test performance but feel that circumstances beyond her control led to her poor test performance. Second, the bias allows individuals to feel good about their future (Janoff-Bulman, 1979). For example, Anne's poor performance due to the unfair test is unlikely to be repeated in the future, but her intellectual abilities will have far-ranging implications for future success.

Thus, the self-serving attributional bias demonstrates how individuals distort their explanations for their behavior to both justify the current self and feel good about their potential for the future.

The current research proposes that the goals of justifying the current self and foreseeing a wonderful future self may also cause individuals to distort their perceptions of their personality traits, particularly how much they control they have over changing them. Although traits are always internal to the individual, they may be viewed as either changeable (an incremental theory of traits) or unchangeable (an entity theory of traits; see Dweck, 1999, for a review). Most of the research in this area has classified individuals as being either entity or incremental theorists, but implicit theories of trait controllability can also be trait specific and flexible (Chiu, Hong, & Dweck, 1997). Although people have a general tendency to view personal attributes as more or less controllable, their beliefs vary from attribute to attribute and can be readily changed. As such, perceptions of trait controllability may be altered in the quest to maintain favorable self-views.

As mentioned, the self-serving attributional bias allows individuals to project positive outcomes into the future (Janoff-Bulman, 1979) while justifying the current self (Heider, 1958). However, a bias in perceptions of trait controllability could serve only one of those motivations at a time. We propose that the motivations to justify one's current self and foresee a better future self have opposing predictions for the direction of a bias in perceptions of trait controllability. Thus, an understanding of the direction of the bias can elucidate whether individuals are presently more concerned with justifying their current self (a self-validation motivation) or with improving it (a self-growth motivation), and under what circumstances the balance between the goals may shift to make either goal predominate.

A self-validation motivation involves a desire to establish or prove basic self-worth (Dykman, 1998), that is, to justify the current self. This motivation should cause people to want to view their negative traits as less controllable the more they possess them. Viewing the negative traits they possess as uncontrollable allows them to avoid taking blame for possessing those traits. Conversely, viewing the negative traits they lack as controllable allows them to take credit for refraining to develop those traits. Thus, lazier people should be more inclined to view laziness as a trait they cannot control because they want to feel that their laziness is not their fault; there is nothing they can do to reduce their laziness. Conversely, individuals low in laziness should want to view laziness as controllable so they can believe that their own abilities or efforts prevented them from becoming lazy.

For similar reasons, self-validation should motivate people to view their positive traits as more controllable the more they possess them. That way they could take credit for the positive traits they possess while avoiding blame for failing to develop the positive traits that they lack. Very sociable people should want to view sociability as controllable so they can take credit for being sociable. Less sociable people should want to view sociability as uncontrollable so they do not feel responsible for their low sociability. Thus, self-validation has opposite predictions for negative and positive traits. A man who is very irritable and very smart may want to see irritability as uncontrollable and thus not his fault but intelligence as a trait that he admirably developed himself. Support for the self-validation perspective comes from research showing that the need to justify the current self is so strong that the past self is often denigrated in its service (Wilson & Ross, 2001).

The desire for growth and improvement is also a major motivation guiding self-evaluation (Taylor, Neter, & Wayment, 1995). A self-growth motivation involves having a strong motivation to see oneself as becoming better in the future (Dykman, 1998). People's concern for future improvement is evidenced by their tendency to be unrealistically optimistic about their future self (Perloff, 1987; Weinstein, 1980). A self-growth motivation should cause people to want to believe they can improve their weaknesses and maintain their strengths. To do this, people may view their negative traits as more controllable the more they possess them. That way they could see their possessed negative traits as more improvable and less likely to exist in the future. For example, a woman who is very irritable would be motivated to see irritability as controllable so she feels that she can potentially reduce her irritability. A woman low in irritability may not feel a need to view irritability as controllable or improvable because she has a desirable level of the trait.

Conversely, a self-growth motivation should cause individuals to view their positive traits as less controllable the more they possess them. First, deficient positive traits constitute personality weaknesses, which individuals motivated by self-growth would want to improve and thus view as controllable. Second, viewing possessed positive traits as less controllable could reduce individuals' concern about losing those traits in the future because uncontrollability and stability usually go hand in hand (Weiner & Graham, 1984). A trait that one cannot change is more likely to be present in the future. For example, if being intelligent is a trait that one cannot work for or lose through disuse (i.e., it is uncontrollable), it will always exist. If instead intelligence is a controllable trait that one must work for and thus could lose through neglect, one's current level of

intelligence does not definitively predict whether one will be smart in the future. Therefore, a controllable trait inherently has the potential to be unstable. A woman motivated by self-growth may view her high intelligence as uncontrollable to help her believe that she will always be smart.[1]

Thus, although the self-serving attributional bias provides the opportunity for people to explain their behaviors in ways that help them both justify their current self and feel good about their future, a bias in perceptions of trait controllability can allow for only one of these goals to be met at any given time. Self-validation should cause individuals to view their personality weaknesses (present negative traits and absent positive traits) as less controllable than their strengths (present positive traits and absent negative traits), whereas self-growth should cause individuals to view their personality weaknesses as more controllable than their strengths. The present research examined which motivation prevails and considered some individual differences and contextual factors that could influence this.

No previous research has directly examined whether self-biases exist in perceptions of trait controllability, but people have been shown to distort other properties of personality traits. People view abilities, like responsibility, as more important when they possess them than when they do not (e.g., Campbell, 1986; Lewicki, 1984; Pelham & Swann, 1989). Also, people see their negative attributes as common, but their desirable attributes as unique and special (Campbell, 1986; Marks, 1984). Dunning and colleagues (Beauregard & Dunning, 2001; Dunning, Perie, & Story, 1991) have found that people even define personality traits in a manner that favors the self. People associate the traits they possess with desirable attributes and behaviors (Dunning & McElwee, 1995). They also define positive, but not negative, traits as consisting largely of their own behaviors and characteristics. For example, people are more likely to view the trait "interesting" as including the behavior "reading widely" if they are avid readers.

Although research has not yet examined biased perceptions of personality controllability, Alicke (1985) found that participants preferred to endorse positive traits that were rated (by an external sample) as controllable and negative traits that were rated as uncontrollable. However, Alicke did not examine how individuals' own perceptions of controllability may change depending on how much they believe they possess their traits. The present research examined this biased construction and alteration of perceptions of trait controllability. In addition, participants in Alicke's study, which took place under formal test-taking conditions, may have been in a context that emphasized self-validation concerns. Although the situational context was not manipulated in the present studies, it was generally less formal and two of the studies employed priming tasks geared at manipulating self-validation and self-growth concerns to examine context effects.

Four studies examined the nature, direction, and strength of a bias in estimates of personality trait controllability and some potential individual differences and boundary effects of the bias. Studies 1 and 2 primarily provided direct tests for the existence and direction of the bias by examining whether perceptions of trait possession predict and influence perceptions of trait controllability. Studies 1 and 3 also investigated potential individual differences. Study 1 examined whether people high in Strength of Will and Rationality (SWRS; Wrightsman, 1964), those who believe that people have much control over future life outcomes, would be more inclined to exhibit a self-growth bias. Study 3 examined whether dispositional validation-seeking and growth-seeking goal orientations (Dykman, 1998) influence the bias in perceptions of trait controllability in a manner consistent with the underlying motivations specified in our model. Studies 3 and 4 examined possible context effects on bias. Study 3 primed the ability or inability to improve oneself. It was hypothesized that greater confidence in the ability to improve oneself would increase self-growth bias (and thus decrease self-validation bias). People should want to view more possibilities for improvement if they think they can actually succeed at self-improvement attempts. Study 4 examined the effects of a temporal self prime on bias. Thinking about what one hopes to be like in the future should lead to more self-growth bias because it would cause people to think about the characteristics that still need improvement for them to develop into a more favorable future self.

We also examined self-esteem as a potential moderator of the trait controllability bias (in Study 1), but its potential effects were more difficult to predict. Although high self-esteem is related to many self-enhancing biases (see Taylor & Brown, 1988, for a review), some self-enhancement tactics are more evident among low self-esteem individuals (Beauregard & Dunning, 2001; Brown, Collins, & Schmidt, 1988). To further complicate matters, some biases have only a distant, context-specific relationship with self-esteem. For example, in the most current forms of the theory, the self-serving attributional bias is not thought to contribute to, or be caused by, levels of self-esteem (Abramson et al., 1989). Both high and low self-esteem individuals exhibit the bias and the bias is only correlated with self-esteem when attributions are given publicly and a strong motivation to impress others exists (Schlenker, Weingold, & Hallam, 1990). Thus, because a bias in the controllability of traits is most similar to the self-serving attributional bias, and because responses in the current studies are private and no

emphasis is placed on impression management, we did not specifically predict that self-esteem would be related to biased perceptions of trait controllability.

STUDY 1

To examine the direction and degree of bias in personality trait controllability, participants estimated the degree to which they or the typical student possessed and had control over various personality traits. We included the typical student target because comparing self-evaluations with evaluations of a typical person is the standard way to determine whether a self-bias truly exists (Epley & Dunning, 2000). We also examined whether this self–other difference would remain after accounting for socially desirable responding.

Study 1 also assessed SWRS and self-esteem as potential moderators. SWRS is the degree to which individuals believe that people are aware of and can control their future. Thus, those high in SWRS have a strong future orientation and believe they have much control over their future outcomes. Such individuals should be inclined to view their personality weaknesses as more fixable. They should be more likely to want to improve their flaws and to feel capable of doing so. Thus, individuals high in SWRS were expected to exhibit more self-growth bias (or less self-validation bias) in perceptions of trait controllability. As mentioned previously, no specific self-esteem effects were predicted.

Method

Participants

Seventy-nine University of Florida introductory psychology students (70% females; *M* age = 20.4) participated for partial course credit.

Design

A 2 × 2 mixed design was employed with target of evaluation (self or typical student) manipulated between subjects and trait desirability (desirable or undesirable) manipulated within subjects. SWRS, self-esteem, and socially desirable responding were assessed and treated as continuous variables.

Materials and Procedure

Participants arrived in small groups and were given an anonymous questionnaire packet for a study on "person perception."

Trait possession and controllability measures. Participants first rated either themselves or "the typical college student" on 32 personality characteristics chosen from Anderson's (1968) list of 555 trait adjectives ranked on desirability. The 16 desirable traits (ranked from 2 to 54) were: honest, intelligent, level-headed, mature, interesting, self-disciplined, humorous, imaginative, responsible, appreciative, clever, considerate, unselfish, friendly, open-minded, and original. The 16 undesirable traits (ranked 410 to 518) were: lazy, careless, snobbish, wasteful, complaining, dominating, unsociable, pessimistic, vain, jealous, overcritical, gossipy, touchy, inattentive, unforgiving, and self-centered.

In one column, participants rated the degree to which the target person possessed each trait on a scale from 1 (*not at all characteristic*) to 6 (*extremely characteristic*). In a second column, participants estimated the degree to which the target person had control over changing each trait on a scale from 1 (*no control over this attribute*) to 6 (*complete control over this attribute*). The following elaboration was included in the self condition and adapted for the typical student condition:

> If you believe you have control over a characteristic, then you believe you can change that aspect of your personality (e.g., in a good or bad way). If you believe that you do not have control over it, then you believe that the characteristic is ingrained in your personality and so it is not modifiable.

Participants then rated each trait on a scale from 1 (*this attribute is very undesirable*) to 9 (*this attribute is very desirable*). Results confirmed that they viewed the positive traits as desirable and the negative traits as undesirable. Mean desirability ratings for each individual trait were significantly different from 5, the midpoint of the scale, in the expected direction, ts(75) = 2.91 to 40.24, ps < .005.

Socially desirable responding measures. Afterward, participants completed the 16-item Responding Desirably on Attitudes and Opinions Scale (RD-16; Schuessler, Hittle, & Cardascia, 1978). The items were summed after assigning 1 point for each statement in which participants' response (agree or disagree) was in the direction of social desirability (*M* = 11.97, *SD* = 2.50, α = .67). Using a response scale from 1 (*not true*) to 7 (*very true*) participants also completed the Balanced Inventory of Desirable Responding scale (BIDR; Paulhus, 1991), consisting of a self-deception subscale (*M* = 5.67, *SD* = 3.23, α = .67) and an impression management subscale (*M* = 5.12, *SD* = 3.22, α = .72). In accord with the suggested scoring procedure, the reversed items were rescored and all high scores (6 or 7) were given 1 point and all other responses were scored as 0. Scores were then totaled for each 20-item subscale. The RD-16 was developed to examine desirable responding on general

attitudes and the BIDR was developed to examine desirable responding on self-relevant attitudes. Both measures were included because some participants rated themselves and others rated the typical student.

SWRS measure. Participants then completed the 14-item SWRS subscale of the Philosophies of Human Nature questionnaire (Wrightsman, 1964), which has a test–retest reliability of .75 over a 3-month period. Participants responded to items such as, "The average person is largely a master of his or her own fate," on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Items were coded such that higher scores always indicated higher perceived control, and they were averaged to form a composite ($M = 4.71$, $SD = 0.72$, $\alpha = .69$).

Self-esteem measure. Participants then completed the Rosenberg Self-Esteem questionnaire (Rosenberg, 1965) using an expanded response scale from a 1 (*strongly disagree*) to 7 (*strongly agree*). Items were coded in the positive direction and then averaged ($M = 5.79$, $SD = 0.88$, $\alpha = .85$).

Demographics and suspicion measures. Participants then indicated their age, sex, and race, and described what they believed was the purpose of the study. They were then debriefed and dismissed. Data from 3 participants were excluded because they correctly guessed the purpose of the study.

Results

Computations

Within each participant's data, we computed the correlation between trait possession and trait controllability ratings separately for the set of desirable traits and the set of undesirable traits. This provided us with an index of associations that assessed whether participants' estimates of trait controllability indeed varied depending on how much they thought they possessed each trait. To eliminate differences between the specific traits, we first standardized all scores within each trait.[2] In all of our studies, the statistical tests examining these correlations as data points were performed after first making Fisher *r*-to-*z* transformations to create normally distributed variables. However, we report means and standard deviations in raw correlation form for ease of interpretation.

Hypothesis Testing

If a self-validation bias exists in perceptions of trait controllability, the mean correlation for the self target should be negative for the undesirable traits and positive for the desirable traits. In other words, participants
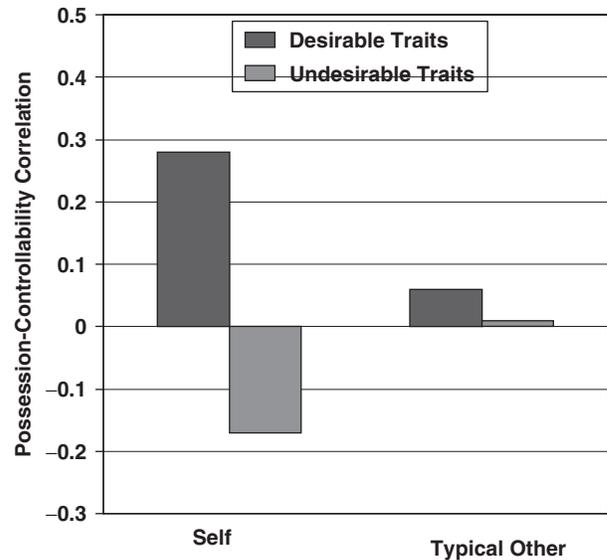

Figure 1 Mean within-subjects trait possession–controllability correlations as a function of trait desirability and target of evaluation (Study 1).

NOTE: Means after Fisher *r*-to-*z* transformations were .33 ($SD = .42$) and –.19 ($SD = .41$) for the desirable and undesirable traits in the self condition, and .07 ($SD = .38$) and .01 ($SD = .31$) in the typical student condition.

should see the undesirable traits as less controllable but the desirable traits as more controllable to the extent that they possessed them. If a self-growth bias exists, the reverse pattern should emerge.

An evaluation Target × Trait Desirability mixed model ANOVA was performed on the possession–controllability correlations. There was no target main effect, but the trait desirability main effect was significant, $F(1, 74) = 33.11$, $p < .001$. Participants' mean trait possession–controllability correlations were higher for the positive traits ($M = .17$, $SD = .36$) than for the negative traits ($M = -.08$, $SD = .33$). More important, the expected Target × Trait Desirability interaction was significant, $F(1, 74) = 21.11$, $p < .001$. As seen in Figure 1, the self condition yielded a mean positive correlation for the desirable traits ($M = .28$, $SD = .34$) and a mean negative correlation for the undesirable traits ($M = -.17$, $SD = .35$). These means were significantly different from each other, $t(38) = 7.08$, $p < .001$, and from zero, $t(38) = 4.96$, $p < .001$ and $t(38) = -2.88$, $p < .01$, respectively. This demonstrates a clear self-validation bias. Participants saw their desirable traits as more controllable and their undesirable traits as less controllable to the extent that they possessed them. Only 3 participants' correlations were all in the direction of self-growth.

Participants did not exhibit any bias when evaluating the typical college student. As shown in Figure 1, the mean correlations for the desirable traits ($M = .06$, $SD = .34$) and the undesirable traits ($M = .01$, $SD = .28$) did not differ from zero, ts(36) = 0.26 and 0.24, *n*s, nor from each

other, $t(36) = 0.85$, *ns*. The mean correlations for the desirable and undesirable traits in the self condition were significantly different from those in the typical student condition, $Fs(1, 74) = 8.10$ and 5.86, respectively, $ps < .05$.[3] There were no significant main effects or interactions involving participant sex, age, or race when entered into the model.

Supplemental Analyses

Social desirability. When the ANOVA included the three socially desirable responding scores as covariates, there were no main effects or interactions involving any of them. More important, the Target × Trait Desirability interaction remained significant, $F(1, 71) = 20.62$, $p < .001$. Thus, participants showed more personality validation bias for themselves than for the typical student, even after accounting for socially desirable responding.

SWRS. A Target × Trait Desirability × SWRS general linear model (GLM) analysis performed on the trait possession–controllability correlations examined the relationship between SWRS and bias. The trait desirability main effect, $F(1, 72) = 12.00$, $p < .01$, and the Target × Trait Desirability interaction, $F(1, 72) = 8.61$, $p < .005$, were again significant. There was also a Trait Desirability × SWRS interaction, $F(1, 72) = 6.73$, $p < .01$, which was qualified by the significant three-way interaction, $F(1, 72) = 5.00$, $p < .05$. To examine this interaction further, Trait Desirability × SWRS GLM analyses were performed separately for the self and typical student target conditions. The Trait Desirability × SWRS interaction was significant in the self condition, $F(1, 37) = 7.29$, $p < .01$, but not in the typical student condition, $F(1, 35) = 0.05$, *ns*. As seen in Figure 2, in the self condition, higher SWRS was associated with less self-validation bias.

Self-esteem. A Target × Trait Desirability × Self-Esteem GLM (and a Trait Desirability × Self-Esteem GLM performed within the self condition only) on trait possession–controllability correlations yielded no significant effects involving self-esteem.

Discussion

Study 1 found that people have biased perceptions of personality controllability. Participants did not show a bias when evaluating the typical college student, but when rating themselves, they saw desirable traits as more controllable and undesirable traits as less controllable the more they possessed them.[4] We suggest that this bias was driven by their desire to readily take credit for their good qualities and avoid blame for their bad qualities. Participants seemed to forgo seeing the potential
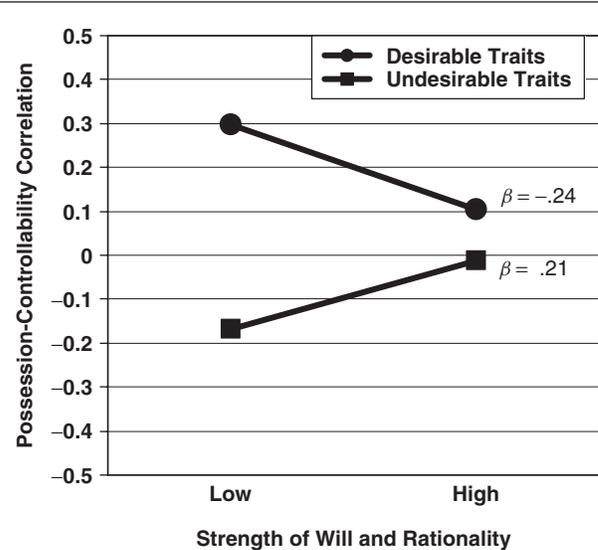

Figure 2 The relationship between Strength of Will and Rationality (SWRS) and possession–controllability correlations for the desirable and undesirable traits (Study 1).

NOTE: Regression equations were computed using Fisher *r*-to-*z* scores but predicted scores (at 1 *SD* below and above the mean on SWRS) were plotted in raw correlation form. Positive correlation scores for the desirable traits and negative correlation scores for the undesirable traits reflect a self-validation bias in estimates of personality trait controllability.

for a more favorable future personality to validate how they acquired their current personality. However, participants who feel they have much influence over their future exhibited less self-validation bias, presumably because of their stronger motivation toward self-growth. Self-esteem was unrelated to the self-validation bias, which is consistent with the aforementioned lack of a consistent relationship between self-esteem and the self-serving attributional bias.

The correlational nature of Study 1 made it impossible to assess whether trait possession truly influenced perceived trait controllability. Perhaps, instead, preconceived notions about the controllability of the different traits led to altered perceptions of their possession, as Alicke's (1985) findings would predict. Also supporting this notion is the fact that when people think future events are more controllable, they are more likely to think they will encounter good events and avoid bad events (Harris, 1996). Thus, our goal in Study 2 was to examine the hypothesized causal relationship.

STUDY 2

To confirm that people's perceptions of the controllability of personality attributes are constructed in a biased manner, participants in Study 2 were given bogus low or

high feedback regarding some personality characteristics and then asked to estimate how much control they have over changing them. We expected participants to see the desirable traits they supposedly possessed and the undesirable traits they supposedly lacked as most controllable, demonstrating a self-validation bias.

Method

Participants

Participants were 104 Michigan State University introductory psychology students (58% females; *M* age = 19.7) who received course credit for participating.

Design

The study was a 2 (undesirable vs. desirable traits) × 2 (low vs. high feedback score) × 2 (feedback profile) mixed-model design. Participants were given bogus feedback scores on eight attributes. The first four were desirable and the second four were undesirable. In one feedback profile condition, participants were given the following attribute scores, in order: low, low, high, high, low, low, high, high. In the second condition, they received the opposite scores. Thus, feedback score (low or high) was manipulated both between subjects (because of the opposite feedback profiles) and within subjects (because each participant received both low and high scores). Feedback score was also manipulated both between traits (because different traits with the same scores could be compared) and within traits (because the same traits with different scores could be compared). The feedback profile manipulation also manipulated feedback order, allowing for the examination of possible order effects.

Materials and Procedure

Participants were informed that they would be completing some personality tests on the computer. The experimenter escorted them to personal rooms equipped with computers that randomly implemented one of the two feedback profile conditions. Participants read that they would be completing five well-established projective personality tests. These tests allowed some ostensible basis for providing participants with false personality feedback.

Bogus personality tests. The first test, based on Murray's (1938) Thematic Apperception Test, involved looking at a picture of two men interacting and then writing a story about what was happening in the scene. The second asked participants to interpret a symbol (a picture of a tree surrounded by some buildings). The third was a word associations task, where participants typed the first word that came to mind after seeing each of 10 words (e.g., *friend*). The fourth had participants list up to seven images they saw in each of four Rorschach-like inkblots. The fifth test involved completing four sentence stems (e.g., "Thinking hard can . . .").

Afterward, participants were provided with more information about each of the tests, along with a brief description of how projective personality tests work. We mentioned some familiar names such as Murray, Rorschach, and Freud to increase the apparent validity of the tests and explained that projective personality tests can actually provide more accurate information about one's personality than the more typical self-report inventories. They were led to believe that their tests would be scored for some specific desirable and undesirable personality characteristics of interest and that their personality feedback would appear on the next screen. After a brief pause while the computer was "working," participants' "personality profile" appeared.

Personality feedback. This screen presented a list of four desirable and four undesirable attributes. In order, these were: flexible cognition, empathic awareness, thoroughness, private self-awareness, social discomfiture, obstinate thinking, repressed antagonism, and cognitive disruption. We chose obscure or fictitious attribute names so participants would not have strong preconceived notions of how much they possessed or had control over them. The first four attributes were labeled as desirable characteristics and the last four were labeled as undesirable characteristics. Each attribute was presented with a bogus feedback score (low/high) and a brief definition. A sad or smiley face next to each score emphasized the valence of the feedback.

Controllability measure and manipulation check. Next, participants were told that research has not yet investigated how much control people have over these personality characteristics. As such, they were asked to indicate how much control they had over each on a scale from 1 (*I have no control over this attribute*) to 9 (*I have complete control over this attribute*). Control was described the same way as in Study 1. Before reporting each estimate, participants recalled whether they scored low, moderate (never the correct answer), or high on the attribute in question.

Demographics and suspicion measures. Participants then indicated their age and sex and described what they believed was the purpose of the study, noting anything unusual, confusing, or suspicious. Data from 3 participants were excluded; 2 identified the independent and dependent variables and 1 did not understand the valence of the feedback. When finished, participants were

given more information about projective personality tests and were debriefed and dismissed.

Results

Manipulation Checks

Participants' responses to the items asking them to recall their attribute possession scores were coded as either correct (exactly what they were told) or incorrect (any other response). Chi-square analyses were performed on each attribute to confirm that the proportion who correctly recalled their score exceeded the proportion who incorrectly recalled their score. The percentages of participants who correctly recalled the feedback for each of the positive attributes were 95%, 92%, 94%, and 95%, $\chi^2(1, n = 101) = 71.53$ to 81.99, $ps < .0001$, and the percentages for the negative attributes were 80%, 70%, 77%, and 77%, $\chi^2(1, n = 101) = 16.64$ to 36.84, $ps < .0001$. A 2 (recall accuracy) × 2 (attribute desirability) chi-square revealed a significant interaction, demonstrating significantly better recall for the desirable traits, as evidenced in the preceding percentages, $\chi^2(1, n = 808) = 49.68$, $p < .001$.

Hypothesis Testing

Controllability estimates were standardized within each attribute to eliminate any potential effects due to their specific names. Perceived controllability was then averaged for each pair of attributes that matched in both desirability and feedback score. Because they produced the same results, the within- and between-subjects effects of feedback score were combined, simplifying the design to a 2 (low vs. high score) × 2 (desirable vs. undesirable traits) factorial. There were no order effects.

A 2 × 2 repeated measures ANOVA was performed on the controllability ratings. The trait desirability main effect was not significant but there was a significant main effect of feedback score, $F(1, 100) = 6.34$, $p < .01$. Participants rated the traits they scored high on as more controllable ($M = 0.09$ vs. -0.08). More important, the predicted Score × Trait Desirability interaction was significant, $F(1, 100) = 53.70$. $p < .001$. As seen in Figure 3, participants rated their apparent personality weaknesses (absent desirable traits and present undesirable traits) as less controllable than their apparent personality strengths (present desirable traits and absent undesirable traits), $ts(100) = 3.93$ to 7.71, $ps < .0001$. These same patterns emerged when means were calculated separately for each of the eight attributes. Participant sex and age were unrelated to the bias.
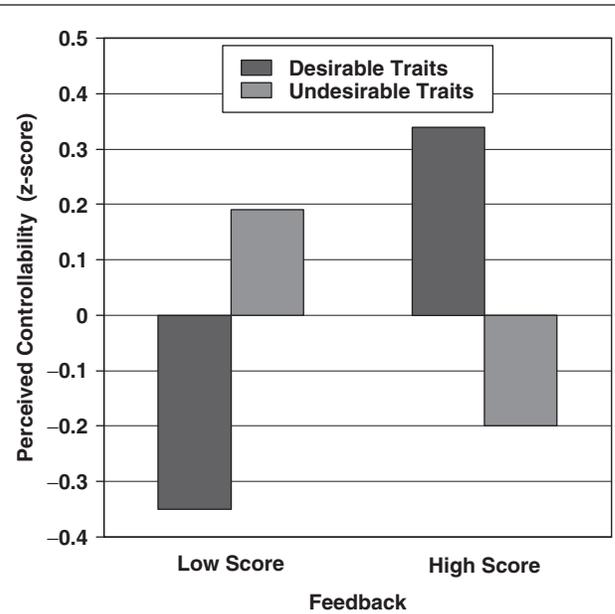

Figure 3   Standardized trait controllability estimates as a function of trait desirability and feedback score (whether participants were told they scored low or high on the traits; Study 2).

Discussion

Study 2 found strong evidence for the cause–effect relationship assumed to be responsible for the self-validation bias obtained in Study 1 (although the reverse causal relationship may also exist). Participants specifically altered their perceptions of the controllability of personality attributes based on how much they were told they possessed them. As in Study 1, the bias appeared more pronounced for the desirable traits. This is consistent with research showing that people's tendency to avoid blame for bad outcomes is not as strong as their tendency to take credit for good outcomes (Miller & Ross, 1975). Also, perhaps people are less willing to contemplate their possible bad qualities, thus reducing their susceptibility to the bias. This is consistent with research on the mnemic neglect effect, which illustrates the propensity to process threatening self-relevant information more shallowly (Sedikides & Gregg, 2003). This effect can also explain why participants' recall of their scores was worse for the negative traits.

We argue that an underlying self-validation motivation was responsible for the biased perceptions of trait controllability observed in Studies 1 and 2. Specifically, viewing one's personality weaknesses as fixed allows people to feel that they could not help but acquire them. Viewing their personality strengths as controllable allows them to see those strengths as having resulted from their own effort and ability to develop them. Unfortunately, this focus on validating the current self

comes at a cost to the future self. Viewing weaknesses as difficult to change means having to see them as continuing to exist in the future.

However, these underlying motivations of self-validation and self-growth were not explicitly assessed. One concern is that participants' perceptions of personality trait controllability do not actually reflect a bias but rather logical conclusions that they are drawing about trait controllability. Commonsense beliefs may cause people to feel that if they have personality defects, those defects must be hard to overcome, but if they have personality strengths, those strengths must be reasonably easy to acquire. Although this suggests a possible nonmotivational explanation for our findings, we believe this explanation is unlikely given that this logic should have also been applied when evaluating the typical student in Study 1. To address this issue further, in Study 3 we examined the underlying motivations involved in the bias. We tested whether individuals' general dispositional motivations to validate or improve themselves predict the extent to which they exhibit the self-validation bias. If so, we can be more confident that it is a motivational bias. In addition, ease or difficulty of changing oneself was primed to examine whether the self-validation bias attenuates when people feel confident about their ability to change themselves.

STUDY 3

The primary purpose of Study 3 was to examine whether participants with weaker dispositional validation-seeking goals or stronger dispositional growth-seeking goals would exhibit less self-validation bias. Additionally, a priming task manipulated participants' perceptions of their ability to improve themselves. It was predicted that priming successful self-growth by having participants think about a successful prior attempt to improve oneself would increase the motivation to exhibit a self-growth bias, thus reducing the self-validation bias.

Method

Participants

Participants were 76 University of Florida introductory psychology students (72% females; M age = 18.9) who received course credit for participation. Data from 2 participants were incomplete and thus excluded.

Design

A 2 × 2 mixed design was employed with priming task (failed or successful self-improvement attempt) manipulated between subjects and trait desirability (desirable or undesirable) manipulated within subjects. Participants' dispositional growth-seeking and validation-seeking goals were assessed and treated as continuous variables.

Materials and Procedure

Participants arrived in small groups to a "personality study" and were given a packet of materials. They were first primed with the ability or inability to improve themselves by recalling a time when they had been either successful or unsuccessful in trying to improve their personality. They read the following:

> Everyone has certain aspects of their personality that they do not like. For this task, we would like you to think of something that you have tried to improve about yourself (perhaps as part of a New Year's Resolution) and were successful/unsuccessful. In the space below, please take about five minutes to describe this aspect of yourself and your successful/failed attempt to improve it.

As in Study 1, participants also rated the extent to which they possessed and had control over 32 desirable and undesirable traits. They then completed the first 12 items of Dykman's (1998) goal-orientation questionnaire, which consists of a validation-seeking subscale (e.g., "My approach to situations is one of always needing to prove my basic worth, competence, or likeability") and a growth-seeking subscale (e.g., "Personal growth is more important to me than protecting myself from my fears"). Participants indicated their agreement with each item on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Validation-seeking ($M = 3.52$, $SD = 1.57$, $\alpha = .92$) and growth-seeking ($M = 4.45$, $SD = 1.17$, $\alpha = .86$) were negatively correlated, $r(72) = -.56$, $p < .001$, as in Dykman's research using the full subscales, which correlated at $-.29$ and $-.48$ in two large samples. Test–retest reliability for the full scale has been shown to be high (.76 for validation seeking and .78 for growth seeking) when testing students 10 weeks apart (Dykman, 1989). Convergent validity comes from findings indicating that stronger validation seeking, but weaker growth seeking, is associated with higher anxiety and depression, but lower self-esteem, task persistence, and self-actualization (Dykman, 1998).

Afterward, participants indicated their sex and age, and briefly described what they believed was the purpose of the study. No responses revealed awareness of the hypotheses. Upon completion, participants were debriefed and dismissed.

Results

Computations and Replication of Bias

As in Study 1, desirable and undesirable trait possession–controllability correlations were calculated for each participant after standardizing scores within each trait. The mean correlation for the desirable traits was again positive ($M = .15$, $SD = .40$) and significantly different from
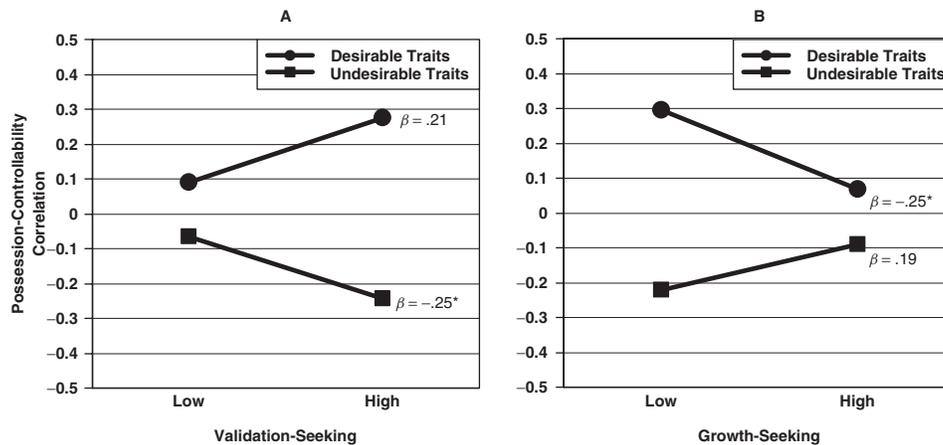
Figure 4   The relationships between goals and trait possession– controllability correlations for the desirable and undesirable traits (Study 3). NOTE: Regression equations were computed using Fisher *r*-to-*z* scores but predicted scores (at 1 *SD* below and above the mean on goal orientation) were plotted in raw correlation form. Positive correlation scores for the desirable traits and negative correlation scores for the undesirable traits reflect a self-validation bias in estimates of personality trait controllability. *$p < .05$.

the (negative) mean correlation for the undesirable traits ($M = -.14$, $SD = .32$), $t(73) = 4.33$, $p < .001$, replicating the self-validation bias.[5] Each was significantly different from zero, $ts(73) = 3.43$ and 3.79, $ps < .001$.

Hypothesis Testing

Although Dykman (1998) recommended using the difference between the validation-seeking and growth-seeking scores as an overall measure of goal orientation (because of their additive effects), he indicated that it may also be possible to detect the effects of each subscale separately. Thus, they were examined separately in the present analyses to provide more detailed results. The prime did not significantly affect validation-seeking scores, $t(72) = 1.40$, $p = .16$, or growth-seeking scores, $t(72) = 0.05$, $p = .96$, which is consistent with the assumption that they measure dispositional motivations. Nonetheless, because the goal scales were completed after the priming task, we saved the residual goal scores after performing a one-way prime ANOVA on each subscale and used these adjusted scores in place of the original raw goal scores in all subsequent analyses. This removed the effects of prime on goals, equalizing the goal means between the prime conditions.

A Prime × Validation-Seeking Goals × Trait Desirability mixed-model GLM was performed on the trait possession–controllability correlations. The significant trait desirability main effect, $F(1, 70) = 19.88$, $p < .001$, was qualified by the predicted Validation Seeking × Trait Desirability interaction, $F(1, 70) = 5.86$, $p < .05$. As seen in Figure 4A, high validation seekers exhibited more self-validation bias,

claiming the positive traits they possessed as more controllable and the negative traits they possessed as less controllable.

A Prime × Growth Seeking × Trait Desirability GLM also yielded a significant main effect of trait desirability, $F(1, 70) = 20.18$, $p < .001$, and the predicted Growth Seeking × Trait Desirability interaction, $F(1, 70) = 5.70$, $p < .05$. As seen in Figure 4B, high growth seekers exhibited less self-validation bias. No other significant results emerged from either GLM.[6]

To examine possible interactions between the two goal measures, a Prime × Validation-Seeking Goals × Growth-Seeking Goals × Trait Desirability GLM was performed. Aside from a marginally significant Prime × Trait Desirability interaction in the predicted direction,[7] the only finding was the significant four-way interaction, $F(1, 66) = 5.37$, $p < .05$. For simplicity, an index of overall bias was computed as the trait possession–controllability correlation for the positive traits minus that for the negative traits. Thus, zero would indicate no bias, positive scores would indicate self-validation bias, and negative scores would indicate self-growth bias. The predicted overall bias scores from the Prime × Validation-Seeking Goals × Growth-Seeking Goals interaction are plotted in Figure 5, $F(1, 66) = 5.37$, $p < .05$. As shown in the figure, the failure prime increased self-validation bias and the success prime decreased self-validation bias only for participants who were ambivalent about their goals, that is, low or high on both validation seeking and growth seeking.

The Trait Desirability ×Goal Orientation interactions discussed earlier were not significant in the model
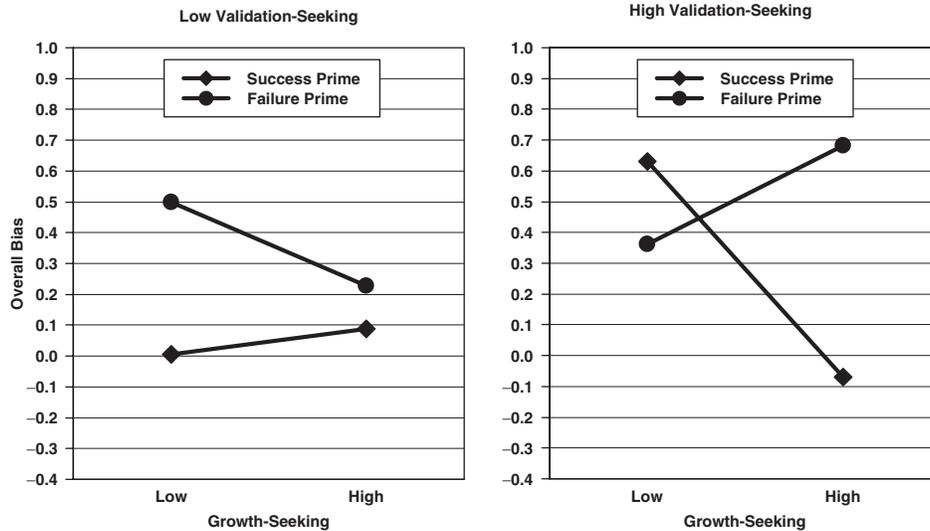
Figure 5   The interactive effects of validation-seeking goals, growth-seeking goals, and ability to improve prime on overall bias (Study 3).
NOTE: Regression equations were computed using Fisher *r*-to-*z* scores but predicted scores (at 1 *SD* below and above the mean on goal orientation) were plotted in raw correlation form. Positive scores reflect bias in the self-validation direction and negative scores reflect bias in the self-growth direction.

including both goal subscales simultaneously. There was also no Trait Desirability × Validation Seeking × Growth Seeking interaction. It appears, then, that the relationships between each goal orientation subscale and bias were not independent of one another and did not interact.[8]

Discussion

Study 3 examined the motivations associated with biased perceptions of trait controllability. A general need to prove oneself predicted more self-validation bias, whereas a general need to improve oneself predicted less. In addition, thinking about a successful self-improvement attempt may result in lower self-validation bias than thinking about a failed self-improvement attempt, particularly for individuals ambivalent in their goal orientation. Because it was a subtle manipulation, the prime may have only been strong enough to have its intended effect on individuals who were uncertain about their primary goal orientation.

These findings support the predicted relationships between motivation and bias as well as the predicted opposing pull between self-validation and self-growth motivations when considering trait controllability perceptions. However, one limitation is that the Dykman (1998) scale was developed largely to examine motivation-related predictors of depression. Thus, many of its items assess how individuals respond to setbacks, difficulties, and challenges, which may tap into different

coping styles and thus may not be ideal when trying to understand general goals in the absence of adversity. The fact that goals correlated with bias despite that potential limitation can increase our confidence that those goals are involved in the bias.

A second limitation is that goal orientation is associated with other variables that could influence bias, such as self-esteem and depression. Self-esteem is unlikely to play a role in the current findings given its failure to influence self-validation bias in Study 1. If depression causes individuals to claim less control over personality weaknesses than personality strengths, high validation seekers may display more self-validation bias because of their higher depression. However, this is unlikely given that depressed people are actually more evenhanded in their attributions of positive and negative outcomes (see Taylor & Brown, 1988).

In summary, actual traits (Study 1) and experimentally manipulated traits (Study 2) are seen as more controllable when people have desirable levels of those traits, and the strength of that self-validation bias is related to validation-seeking and growth-seeking motivations, and possibly the extent to which people currently feel capable of improving themselves (Study 3). Study 4 sought to further examine possible context effects by manipulating temporal focus. Specifically, if the bias is related to validating the current self at the expense of thinking about future self-development, getting people to think about what they hope to be like in the future might attenuate, eliminate, or reverse the

self-validation bias. The reason for this potential change in bias is that a hoped-for future self prime would make individuals more concerned with improving themselves, as opposed to merely proving themselves, as they consider their goals for future personality development.

STUDY 4

To examine whether a future self-focus reduces the self-validation bias, participants were primed with their past or future self and they then completed ratings of trait possession and controllability.

Method

Participants

Seventy Michigan State University introductory psychology students participated for course credit. Data from 3 participants were excluded because they skipped or misunderstood the priming task.

Design

A 2 × 2 mixed design was employed with temporal self prime (past or hoped-for future self) as a between-subjects variable and trait desirability (desirable or undesirable) as a within-subjects variable. To keep the control condition as similar to the experimental (hoped-for future self) condition as possible, all participants wrote about a temporal self. Control participants wrote about their past self because we saw the activation of the past self as an implicit step in validating the current self. When people strategically explain how they have become they way they are, they must consider how they have changed from the past.

Materials and Procedure

Participants arrived to a "personality study" and were given a packet of materials. It began with the priming task, with instructions adapted from Oyserman and Markus (1990). In the past self condition, participants read:

> Many people have memories of what they used to be like in the past. This is your "past self." Think of what you used to be like years ago. You may see yourself as very different from now or very similar. Below, please describe your past self.

In the hoped-for future self condition, they read:

> Many people have in mind some things they want to be like in the future regardless of how likely it is that they will actually be that way or do those things. This is the kind of self that you would hope to be like. Below,
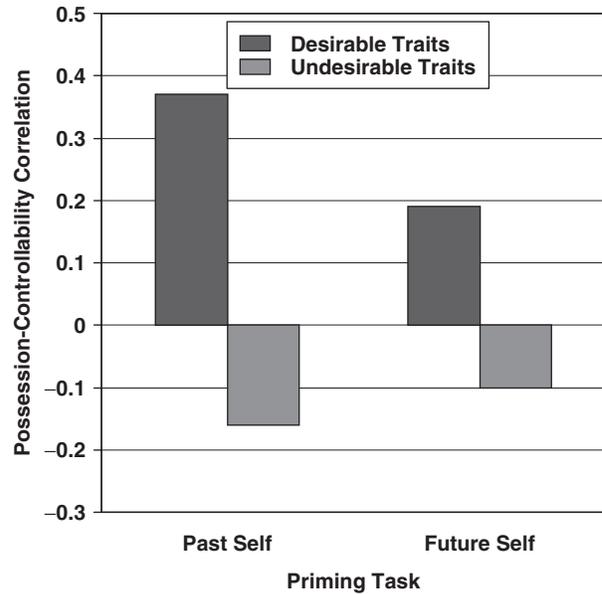

Figure 6 Mean within-subjects trait possession–controllability correlations as a function of past and future self primes (Study 4).
NOTE: Mean correlations are in raw form. Means after the Fisher *r*-to-*z* transformations were .45 (*SD* = .42) and –.19 (*SD* = .39) for the desirable and undesirable traits in the past prime condition, and .22 (*SD* = .44) and –.11 (*SD* = .38) in the future prime condition.

please describe a possible self that you most hope to describe you in the future.

Afterward, participants rated how much they currently possessed and had control over 32 desirable and undesirable traits, as in Studies 1 and 3. They were then debriefed and dismissed.

Results

Computations

Desirable and undesirable trait possession–controllability correlations were computed and analyzed as in Studies 1 and 3.

Hypothesis Testing

A 2 (temporal self prime) × 2 (trait desirability) mixed-model ANOVA was performed on the correlations. The predicted Self Prime × Trait Desirability interaction was significant, $F(1, 65) = 4.13$, $p < .05$. Means are presented in Figure 6. Although all participants displayed a self-validation bias, it was significantly lower after the future self prime. The mean correlation was significantly different between the two prime conditions only for the positive traits, $F(1, 63) = 4.56$, $p < .05$.

Discussion

Study 4 found that priming participants with different possible selves shifted the degree of self-validation bias they exhibited. Thoughts of their hoped-for future self led to less self-validation bias when evaluating their present self than thoughts of their past self. Presumably, focusing on one's past self causes individuals to think about the efforts they put forth in achieving their current self. This produces a motivation to validate one's current self. In contrast, focusing on one's hoped-for future self causes individuals to construe their current self as a work in progress. They do not feel as much need to validate their current self because a new and improved self is yet to come. For example, a very irritable man who is thinking about how his personality has developed from past to present may be inclined to deny any personal role in developing his irritability by viewing the trait as uncontrollable. When that same man thinks about how his personality may develop from present to future, he may be willing to view his current irritability as somewhat controllable, even his own fault, if it allows him to foresee greater potential to reduce his irritability for the future. Thus, a focus on the goal of future self-development may have produced an increased desire for self-growth (Markus & Nurius, 1987) in participants. This motivation then pushed against the opposing motivation of self-validation. However, because the self-validation bias is so strong and robust, it did not disappear or reverse in the present study.

GENERAL DISCUSSION

The current research demonstrates both the tenacity and flexibility of a bias in perceptions of trait controllability. First, across all four studies, a self-validation bias was observed in which participants viewed positive traits as more controllable but negative traits as less controllable when they possessed them. Thus, participants were able to validate their current self by taking credit for their strengths while avoiding blame for their weaknesses. Second, dispositional and situational influences on self-growth versus self-validation motivations altered the self-validation bias. The bias attenuated for participants with high SWRS, strong growth-seeking goals, or weak validation-seeking goals. The bias also tended to weaken after participants were primed with the ability to improve themselves or with thoughts of their future self. Thus, not only are perceptions of the controllability of personality traits altered to benefit the self, but those perceptions are fluid and can change based on one's motivations and current state of mind.

Although we found no evidence of a self-growth bias in trait controllability perceptions, it is premature to conclude that it never exists. Had participants been in a context that emphasized self-growth, such as a workshop or self-help seminar, they may have been more motivated to anticipate possible improvements in their personality (see Ames, 1992). Thus, although self-validation was a stronger force than self-growth in the current research, situational influences that predominantly trigger self-growth may reverse that (see Butler, 1993; Dunning, 1995; Taylor et al., 1995).

Cultural influences on the operative motives may also exist. Heine and colleagues (Heine & Renshaw, 2002; Heine, Takata, & Lehman, 2000) have argued that Easterners' biases are more self-critical than self-validating. Being self-critical allows them to see their own shortcomings, correct them, and become better in the eyes of others (Heine et al., 2000), which helps them achieve the much-desired approval of others. Because the self-critical bias is related to self-growth, Easterners may exhibit more self-growth bias in estimates of trait controllability.

What are the long-term implications of holding biased perceptions of personality controllability? Positive self-illusions can sometimes be beneficial in the short term but detrimental in the long run (Colvin & Block, 1994; Robins & Beer, 2001). Robins and Beer (2001) found that self-enhancing college students experience temporary affective benefits but are also on a downward trajectory toward lower self-esteem, well-being, and academic self-engagement during their college years. A self-growth bias may also be associated with short-term benefits and long-term costs. The benefits involve feeling good about the potential to improve oneself. However, emotional costs could arise over time if individuals never attempt to improve their worst qualities or never succeed at self-improvement attempts.

Similarly, the self-validation bias may make people feel better about themselves now but worse as time goes by. A very irritable and intelligent woman might see irritability as uncontrollable and intelligence as controllable; therefore, she can feel good when thinking about how she came to be that way. But if she wants to improve her level of irritability, she may feel hopeless because she has convinced herself that it is uncontrollable. People may also avoid thinking about seemingly uncontrollable negative traits. Research illustrating people's poorer recall for self-threatening feedback about unmodifiable (vs. modifiable) traits suggests that they do not process that self-information as deeply (Green, Pinter, & Sedikides, 2005). Thus, believing that negative traits are uncontrollable may lead to a self-fulfilling effect in which they actually become less controllable. These issues are of particular importance if people also have biased perceptions of the controllability

of health-related behaviors and illnesses (Lin, Lin, & Raghubir, 2003).

It may also be important to know the extent to which individuals recognize, and perhaps correct for, biases in perceptions of trait controllability. In a study not reported here, we found that people correctly view the general population as exhibiting a self-validation bias but erroneously view themselves as exhibiting a self-growth bias (El-Alayli & Gabriel, 2003). If people consequently attempt to correct for the wrong bias, they would adjust their bias in the wrong direction, making the positive and negative effects of the self-validation bias more extreme.

Thus, biased controllability perceptions could potentially influence both well-being and self-improvement efforts. Further research is necessary to elucidate when biased controllability perceptions are used instead of other self-enhancement biases. For example, a man who is lazy could view himself as less lazy (Alicke, 1985), could develop a more favorable definition of laziness (Dunning & McElwee, 1995), could decide that his laziness is uncontrollable and thus not his fault (self-validation), or could decide that his laziness is controllable and improvable over time (self-growth). The chosen path likely depends on which method is salient, most plausible, or easiest to apply. Thus, an understanding of biases in trait controllability perceptions is important because it reveals an additional avenue for self-enhancement and demonstrates the strength, flexibility, and voracity of the drive to view oneself positively.

NOTES

1. One could also argue that a self-growth motivation might lead to a desire to see one's positive traits as controllable and thus likely to be even better in the future. For example, if a very kind man viewed kindness as controllable then he could project a future self in which he was even kinder. We did not predict this pattern because the more one possesses a positive trait, the more one has to lose from potentially losing the trait and the less one can gain from increasing it. The very kind man in our example could lose a lot if kindness is unstable but could gain only a little (due to already high kindness) if it could be improved.

2. This standardization procedure slightly reduced the bias estimates in our studies.

3. Two alternative methods for analyzing the data were also performed. First, between-subjects correlations between trait possession and controllability were computed for each trait. In the self condition, the average of the 16 correlations for the desirable traits ($M = .34$) was significantly different from that for the undesirable traits ($M = -.18$). This was not true in the typical student condition ($M = .13$ vs. $.09$). These average correlations differed significantly between the targets for both the desirable and undesirable traits, $ts(15) = 3.64$ and 4.78, $ps < .005$. The second alternative analysis examined mean controllability ratings only for traits the target person strongly possessed (rated as very or extremely characteristic). The caveat is that data are lost from participants who did not strongly endorse any trait. Nevertheless, a Target × Trait Desirability ANOVA performed on estimates of controllability for the strongly endorsed traits produced

a significant interaction, $F(1, 51) = 36.04$, $p < .001$. In the self condition, mean perceived controllability was higher for the positive traits ($M = 4.40$, $SD = 0.99$) than the negative traits ($M = 3.69$, $SD = 1.27$), $t(28) = 4.27$, $p < .001$. This was not true for ratings of the typical student ($M = 4.09$, $SD = 1.10$ vs. $M = 5.04$, $SD = 0.96$).

4. In a previous study, we found that no bias is shown in favor of a known, but disliked, individual (El-Alayli & Gabriel, 2002).

5. Means after Fisher r-to-z transformations were .19 ($SD = .47$) for the desirable traits and $-.16$ ($SD = .36$) for the undesirable traits.

6. However, a marginally significant Prime × Growth Seeking × Trait Desirability interaction was obtained, $F(1, 70) = 3.26$, $p < .07$. In the failure condition, growth seeking was unrelated to bias. In the success condition, growth seeking was related to less self-validation bias for both positive and negative traits.

7. When participants were primed with a successful self-improvement attempt, they tended to exhibit less self-validation bias than when primed with a failed attempt, $F(1, 66) = 3.07$, $p < .08$. The pattern was observed for both positive and negative traits.

8. When applying Dykman's (1998) recommendation of using one difference score (validation seeking minus growth seeking) as an overall measure in a Prime × Goal Difference Score × Trait Desirability mixed-model GLM, the interaction between goal orientation and trait desirability was significant, $F(1, 70) = 7.77$, $p < .01$. Individuals who had a stronger validation-seeking orientation relative to their growth-seeking orientation showed more self-validation bias. Goal orientation was significantly related to the trait possession–controllability correlations for both the positive traits, $r(72) = .24$, $p < .05$, and the negative traits, $r(72) = -.24$, $p < .05$.

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