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The Michelangelo phenomenon and secure self-esteem

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## ABSTRACT

### The Michelangelo phenomenon and secure self-esteem

Abigail A. Mitchell

In the same way that a sculptor shapes a block of stone to reveal the ideal form within, one's relationship partner can help one to become more like one's ideal self (Drigotas, Rusbult, Wieselquist, & Whitton, 1999). This interpersonal process is called "the Michelangelo phenomenon." The current research examines whether the Michelangelo phenomenon will lead to increases in self-esteem in general, and increases in secure self-esteem in particular. Study 1 followed dating couples for six months and found that individuals whose romantic partner treats them as if they already possess the characteristics of their ideal self exhibit growth toward their ideal self and higher levels of self-esteem. Study 2 provided the first experimental test of the Michelangelo phenomenon and examined whether the phenomenon can occur between new acquaintances. Participants interacted with a confederate who behaved toward them as if they possessed a trait that was either central to or irrelevant to their ideal self. Results revealed that interacting with a new acquaintance who treats individuals in a manner consistent with their ideal (vs. irrelevant) self causes those individuals to grow toward their ideal self and to experience increased self-esteem. Studies 3 and 4 extended the experimental paradigm developed in Study 2 to examine the effects on secure vs. insecure self-esteem and on defensive vs. nondefensive behavior, but the results from these two studies were inconclusive.

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## THE MICHELANGELO PHENOMENON AND SECURE SELF-ESTEEM

In the movie *Jerry McGuire*, Renee Zellweger's character, Dorothy Boyd, says about her love for Jerry McGuire, "I love him for the man he wants to be and I love him for the man he almost is." As discussed by Rusbult, Kumashiro, Stocker, and Wolf (2005), Dorothy sees Jerry's ideal self and wants to help him transform into that ideal. Dorothy is like a sculptor who sees the perfect sculpture, Jerry's ideal self, hidden in the block of stone and chips away at the rough block of Jerry's actual self to reveal the ideal form hidden within. This interpersonal sculpting process is referred to as the *Michelangelo phenomenon* (see Rusbult et al., 2005). Dorothy's behavior toward Jerry helps him become more like the person that he wants to be. Previous research suggests that the Michelangelo phenomenon will likely have positive outcomes for Dorothy and Jerry's relationship (Drigotas, Rusbult, Wieselquist, & Whitton, 1999; Rusbult et al., 2005). Theorizing regarding the Michelangelo phenomenon further predicts that this process will have benefits for Jerry's personal well-being, in particular for that aspect of well-being that is the focus of the present research: self-esteem.

Self-esteem is an intriguing construct to examine because of the controversies and debates surrounding the utility of self-esteem for individuals and the different types of self-esteem that may exist. Baumeister, Campbell, Krueger, and Vohs (2003) convincingly argued that evidence for the benefits of high self-esteem is much more limited than is widely believed. Further, high self-esteem has been linked to several negative outcomes, such as increased violence (Baumeister, Smart, & Boden, 1996) and self-defeating behavior (Baumeister, Heatherton, & Tice, 1993). Explaining some of the discrepant self-esteem findings, Kernis (2003) posited a distinction between secure and fragile self-esteem. *Secure self-esteem* is a positive self view that has a solid basis and fluctuates little over time, whereas *fragile self-esteem*



is a positive self view that requires defensive, self-protective strategies to maintain itself and fluctuates markedly over time. Because the Michelangelo phenomenon involves the self becoming closer to its ideal, this process should result in increases in secure but not fragile self-esteem. Kernis (2003) argues that the benefits of high self-esteem derive from secure self-esteem whereas the negative, defensive consequences of high self-esteem derive from fragile self-esteem. In the present research, I argue that the Michelangelo phenomenon is a particularly beneficial interpersonal process because it increases secure self-esteem, which, in turn, reduces defensive behaviors.

### The Michelangelo Phenomenon

The *Michelangelo phenomenon* is, “a congenial pattern of interdependence in which close partners sculpt one another in such a manner as to bring each person closer to his or her ideal self” (Drigotas et al., 1999, p. 293). Utilizing the metaphor of the sculptor sculpting a block of stone, the Michelangelo phenomenon draws on the unique way in which Michelangelo viewed his sculptures. “Michelangelo conceived his figures as lying hidden in the block of marble... The task he set himself as a sculptor was merely to extract the ideal form... to remove the stone that covered [the ideal]” (Gombrich, 1995, p. 313). In this metaphor, the ideal form lying dormant within the stone is the *ideal self*, a possible self that the individual would ideally like to become (Higgins, 1987, 1996; Markus & Nurius, 1986). The partner serves as the sculptor who shapes the block of stone, the *actual self*. The actual self consists of the dispositions, motives, and behavioral tendencies an individual actually possesses. The partner chisels the block of stone through his or her behavior to help the self become more like the ideal self, the beautiful sculpture within.<sup>1</sup>

The Michelangelo phenomenon is a particular type of *behavioral confirmation*, where an interaction partner's expectations about the self become reality by eliciting behaviors from the self that confirm the partner's expectations (Darley & Fazio, 1980; Harris & Rosenthal, 1985; Merton, 1948). In other words, interaction partners develop beliefs about the self and behave toward the self in ways consistent with that belief. Through this behavior, partners create opportunities for the self to display certain behaviors congruent with the partner's beliefs, and restrain the display of other behaviors incongruent with those beliefs. Through this process, the self's behavior becomes increasingly in line with the partner's expectations (Rosenthal & Jacobson, 1968; Snyder, Tanke, & Berscheid, 1977; Fazio, Effrein, & Falender, 1981; Murray, Holmes, & Griffin, 1996). What makes the Michelangelo phenomenon distinct from other types of behavioral confirmation is that the partner's expectations are congruent with the self's conception of the ideal self. Rather than being shaped toward *someone else's expectations*, the self in the Michelangelo phenomenon is shaped toward *the self's ideals*.

#### *The Michelangelo Phenomenon Model*

The Michelangelo phenomenon begins with *partner perceptual affirmation*, where the partner perceives the self as congruent with the ideal self (Drigotas et al., 1999; see Figure 1). For example, Dorothy perceives Jerry as being compassionate and courageous after reading his mission statement. Next, *partner behavioral affirmation* occurs where the partner behaves towards the self as if the self were already congruent with the ideal. For example, when Jerry gets discouraged about business, Dorothy reminds him of the values he outlined in his mission statement. For the purposes of the present research, I will focus primarily on behavioral affirmation because previous research has demonstrated that partner perceptual affirmation is not

as strongly related to growth towards one's ideal or self-esteem as partner behavioral affirmation (Drigotas, 2002; Drigotas et al., 1999; Rusbult et al., 2005).

Next, as can be seen in Figure 1, through behavioral confirmation processes, partner affirmation yields *growth toward one's ideal self*. The self becomes more similar to its ideal form. Jerry becomes more compassionate through his interactions with Dorothy and is therefore able to develop the closer relationships with his clients that he desires.

The Michelangelo phenomenon results in the enhancement of both the relational and personal well-being of the individual being affirmed (Drigotas, 2002; Drigotas et al., 1999; Rusbult et al., 2005). Research exploring relational well-being has linked partner affirmation to greater dyadic adjustment, relationship persistence, commitment, satisfaction, and trust (Drigotas et al., 1999; see Rusbult et al., 2005 for a review). Personal well-being has not been as extensively studied as relationship well-being, with only one published article assessing personal well-being (Drigotas, 2002). However, the large body of work on growth strivings, when applied to the Michelangelo phenomenon, suggests that it should have positive benefits for personal well-being in general, and self-esteem in particular. Multiple theorists have argued that growth striving, such as becoming more like the ideal self, is a primary human motive. For example, growth striving can be found in Freud's (1923) discussion of the ego ideal, Rogers' (1961) and Maslow's (1962) description of self-actualization, Bowlby's (1969) concept of exploration and Deci and Ryan's (1995) self-determination theory. Growing and becoming a better person is in itself satisfying (Deci & Ryan, 2000; Emmons, 2003), and congruity between the actual and ideal self is related to higher levels of self-esteem (Moretti & Higgins, 1990).

The current research will focus on how self-esteem and its outcomes are influenced by partner affirmation. Experiencing partner affirmation and growth toward one's ideal should

result in higher levels of self-esteem. Previous research provides suggestive evidence for this link. In a study examining college students involved in dating relationships, behavioral affirmation was significantly correlated to higher levels of self-esteem (Drigotas, 2002).

### *Ruling Out an Alternative Explanation*

To demonstrate its unique theoretical and practical importance, the Michelangelo phenomenon must be distinguished from another interpersonal process that influence self-esteem. The present research will examine if partner acceptance can account for the influence of partner affirmation on self-esteem. Sociometer theory argues that self-esteem is a subjective monitor of the degree to which the self is being accepted versus rejected by other people (Leary, Tambor, Terdal, & Downs, 1995; Leary & Baumeister, 2000). In this conception, self-esteem serves to monitor the quality of interpersonal relationships and to help maintain a minimum level of acceptance by other people. Feelings of social rejection will lead to low self-esteem, whereas feelings of social acceptance will lead to high self-esteem. According to this perspective, partner affirmation may increase self-esteem due to feelings of social acceptance rather than something unique about partner affirmation of the ideal self. Social acceptance and rejection certainly predict changes in self-esteem (Leary et al., 1995; Leary & Baumeister, 2000), but I argue that partner affirmation will have benefits for self-esteem above and beyond the influence of social acceptance.

### Self-Esteem

Self-esteem has been a much studied and controversial topic. One of the largest controversies, and the one most relevant to the current research, is whether the consequences of high self-esteem are predominantly positive or negative. Traditionally, psychologists and laypeople alike have viewed self-esteem as unmitigatedly beneficial (e.g., Deci & Ryan, 1995;

Mecca, Smelser, & Vasconcellos, 1989). Some argue that self-esteem is the key to curing most of societal ills, ranging from low school performance to drug addiction to teenage pregnancy (see Mecca et al., 1989).

In recent years, some researchers have called this positive conception of self-esteem into question and warned of the numerous negative consequences of high self-esteem. Baumeister and colleagues (2003) argued that much of the evidence linking self-esteem to positive outcomes was flawed or correlational, rendering causal conclusions suspect. They argued that the positive influence of self-esteem was much more circumscribed than commonly thought and that good evidence existed for only two positive consequences of high self-esteem: increased levels of happiness and better self-regulation regarding whether to persist or quit at a task.

Beyond simply lacking many benefits, research indicates that high self-esteem may also have many negative consequences. High self-esteem has been linked to self-defeating behavior (Baumeister et al., 1993), lower ratings of likeability by others (Heatherton & Vohs, 2000), and increased violence (Baumeister et al., 1996). How can these seemingly contradictory findings be reconciled?

In an attempt to answer this question, researchers have suggested that there are multiple types of self-esteem (e.g., Crocker & Wolfe, 2001; Deci & Ryan, 1995; Greenier, Kernis, & Waschull, 1995; Jordan, Spencer, Zanna, Hoshino-Browne, & Correll, 2003; Schneider & Turkat, 1975). Traditional conceptions of self-esteem focus on the level of self-esteem: whether it is high or low. A growing body of literature suggests that other aspects of self-esteem, such as its stability, contingency, and implicit features, may be an important part of the puzzle in understanding the influence of self-esteem

Integrating much of the previous research on different types of self-esteem, Kernis (2003) proposed two general types of self-esteem: secure and fragile. Secure, or “optimal”, self-esteem reflects positive self-views that have a solid basis and promote beneficial consequences for the self. Secure self-esteem refers to “favorable feelings of self-worth that arise naturally from successfully dealing with life challenges; the operation of one’s core, true, authentic self as a source of input to behavioral choices; and relationships in which one is valued for who one is and not for what one achieves” (Kernis, 2003, p. 13). People with secure self-esteem are not defensive after receiving negative feedback; rather, they can accept both their weaknesses and their strengths. Secure self-esteem is stable and not dependent upon others’ standards or one’s performance on a given task; it comes from an intrinsic sense of the value of who one is as an individual. This does not mean that others cannot influence individuals’ level of self-esteem. I argue that other people should be able to influence secure self-esteem to the extent that their feedback fosters the individuals’ authentic self.

Fragile self-esteem, on the other hand, reflects positive self-views that are unstable and vulnerable to threat and therefore require self-protective strategies to maintain themselves. Fragile self-esteem can be defensive, contingent, or unstable. Kernis (2003) argues that fragile self-esteem is the type associated with many of the negative consequences of high self-esteem discussed previously, such as defensiveness and violence.

### *Authenticity*

Central to Kernis’s (2003) conception of secure self-esteem is the idea of *authenticity*, defined as “the unobstructed operation of one’s true, or core, self in one’s daily enterprise” (p. 13). Individuals high in secure self-esteem are in touch with and driven by their authentic selves. Individuals high in authenticity are aware of their feelings, desires, motives, and self-relevant

cognitions. They can see both their strengths and weaknesses and accept contradictory self-knowledge. Further, they do not process self-relevant information in a biased way, but rather objectively perceive both positive and negative self-aspects. These individuals utilize their understanding of their authentic self to influence behavior and close relationships. Autonomy and choice, rather than external goals and pressures, drive behavior. In relationships, authentic individuals value mutual intimacy and trust so partners can see each others' true self. Previous research demonstrates that authenticity is positively correlated with self-esteem and life satisfaction, and negatively correlated with self-esteem contingency (Goldman & Kernis, 2002).

#### *Components of Secure Self-Esteem*

Kernis (2003) identifies several types of self-esteem that may be related to or part of secure self-esteem. In the current research, I will explore two of these types: (a) the relationship between explicit and implicit self-esteem and (b) self-esteem contingency.

*Explicit and implicit self-esteem.* Just as individuals may hold differing explicit and implicit attitudes toward another individual or group (e.g., Devine, 1989; Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997; Greenwald, & Banaji, 1995), they may hold differing explicit and implicit attitudes toward themselves (Jordan et al., 2003; Spalding & Hardin, 1999). *Implicit self-esteem* is an “automatic, overlearned, and nonconscious evaluation of the self that guides spontaneous reactions to self-relevant stimuli” (Bosson, Swann, & Pennebaker, 2000; pp. 631).

*Explicit self-esteem*, in contrast, is a rational, deliberative, and conscious self-evaluation.

Traditional self-report measures of self-esteem, such as the Rosenberg Self-Esteem Scale (Rosenberg, 1965), measure only explicit self-esteem. Only recently have measures been developed that can measure implicit self-esteem (see Bosson et al., 2000). These two types of

self-esteem can be disassociated (Jordan et al., 2003; Spalding & Hardin, 1999). For example, individuals can possess high explicit self-esteem and low implicit self-esteem.

Secure self-esteem consists of both high implicit and explicit self-esteem (Kernis, 2003). Some scholars have argued that the negative outcomes of high self-esteem, such as violence, self-defeating behavior, and lower likeability ratings by others, are due to high explicit self-esteem and low implicit self-esteem (Bosson, Brown, Zeigler-Hill, & Swann, 2003; Jordan, Spencer, & Zanna, 2005, Meagher & Aidman, 2004). The negative outcomes of high self-esteem are argued to either discredit negative feedback or bolster explicit self-esteem, allowing individuals to maintain explicitly positive self-views despite a negative implicit evaluation. The present research will examine whether partner affirmation increases secure self-esteem, where explicit and implicit self-esteem are both high.

*Self-Esteem Contingency.* *Self-esteem contingency* refers to, “feelings about oneself that result from—indeed, are dependent on—matching some standard of excellence or living up to some interpersonal or intrapsychic expectations” (Deci & Ryan, 1995, pp. 32).<sup>3</sup> For example, a student who feels she must get an A in her biology class or she will be a failure has highly contingent self-esteem. Self-esteem contingencies may be based on externally imposed demands, such as a parent’s affection being dependent on getting good grades, or internally imposed demands that do not spring from the true self, such as a student feeling as if she is worthless if she doesn’t get good grades. Contingent self-esteem requires a continual need for success that can never be satisfied because new successes are constantly required to maintain positive self-views (Deci & Ryan, 1995). When these individuals do fail, they will often respond with defensive and harmful behaviors in an attempt to protect their self-esteem (Kernis & Paradise, 2002; Neighbors, Larimer, Geisner, & Knee, 2001, cited in Kernis, 2003).



Non-contingent self-esteem, on the other hand, emerges from behaving in a manner consistent with the *authentic self*, the individuals' true or core self (Deci & Ryan, 2005). Non-contingent self-esteem does not mean that individuals can behave however they desire and still feel good about themselves. Rather, the standard for behavior is drawn from the authentic self. Secure self-esteem is non-contingent because it doesn't require attainment of specific outcomes or continual validation, but is anchored securely in the authentic self (Kernis, 2003). Individuals high in secure self-esteem will still feel disappointed if they fail, but their global self-view will not be affected by these individual experiences of failure.

#### The Michelangelo Phenomenon and Secure Self-Esteem

Why might the Michelangelo phenomenon lead to secure self-esteem rather than other types of self-esteem? My analysis of the connection between the Michelangelo phenomenon and secure self-esteem is premised on the fact that the ideal self is a component of the authentic self. Specifically, the ideal self is a future-oriented part of the authentic self, reflecting the self's own standards for who the self wants to be in the future rather than other people's standards for the self (Higgins, 1987, 1996). Further, when being affirmed by a partner, the self becomes more like the ideal, making the ideal self an authentic description of not only who the self is today, but also who the self will be tomorrow.

Referring back to Kernis's (2003) definition, secure self-esteem "involves (a) favorable feelings of self-worth that arise naturally from dealing with life's challenges; (b) the operation of one's core, true, authentic self as a source of input to behavioral choices; and (c) relationships in which one is valued for who one is and not for what one achieves." Each of these criteria is met in the Michelangelo phenomenon. Dealing with each criterion in turn, the feelings of self-worth that the Michelangelo phenomenon elicits are based on experienced successes in life.

Interactions with a partner which affirm the ideal self are in and of themselves life experiences that reinforce these feelings of self-worth. Further, because the partner elicits behavior consistent with the individuals' ideal selves, individuals are likely to become more like their ideal selves. Rather than promoting a general sense of self-worth that is not based on actual successes, the Michelangelo phenomenon enables individuals to experience successes in the domains that matter most to them, and then to build their self-esteem on this more solid basis.

The second criterion of secure self-esteem states that the authentic self influences behavior. The self has been shown to influence behavior in numerous ways (Bandura, 1982; Cross & Madson, 1997; Scheier & Carver, 1988). I argue that when partner affirmation occurs and the self becomes more like its ideal that this change in the self will likely promote behavior consistent with that self. As discussed above, I posit that the ideal self is part of the authentic self. Therefore, when partner affirmation causes growth toward the ideal, individual's behaviors are increasingly driven by the authentic self.

Finally, the third criterion states that the self is involved in relationships where the self is appreciated for who the self is and not for what the self achieves. The Michelangelo phenomenon is an interpersonal process so it by definition must occur in the context of a social relationship. Additionally, in the eyes of the partner, the self approximates the ideal form and already possesses the ideal characteristics, so no achievement is necessary to prove the self's worth. There is no achievement contingency in this type of relationship because the partner views the self as already possessing the desired characteristics.

### Hypotheses

This integration of the Michelangelo phenomenon and secure self-esteem literatures suggests six hypotheses that will be tested in the present research.

*Hypothesis 1:* Partner affirmation will lead to growth towards one's ideal self and increases in self-esteem.

*Hypothesis 2:* Growth toward one's ideal self will mediate the relationship between partner affirmation and self-esteem.

*Hypothesis 3:* Partner affirmation will increase self-esteem above and beyond the effects of partner acceptance.

*Hypothesis 4:* Partner affirmation will increase secure (vs. insecure) self-esteem.

*Hypothesis 5:* Partner affirmation will result in reduced defensiveness (i.e., as assessed by levels of anger, self-serving inferences, and racial discrimination).

*Hypothesis 6:* Secure self-esteem will mediate the relationship between growth toward one's ideal self and reduced defensiveness.

I conducted four studies to test these hypotheses. All four studies will test Hypotheses 1 and 2. Study 1 and Study 2 will also test Hypotheses 3. Studies 3 and 4 will test Hypotheses 4, 5, and 6.

### Study 1

Study 1 tests the Michelangelo phenomenon model and its relation to self-esteem by tracking dating couples over six months. This method allows me to examine the associations among the key model variables (see Figure 2) within each of the 14 waves of data collection. Additionally, I can examine whether partner affirmation, growth toward one's ideal, and self-esteem fluctuate in tandem with each other. In on-going relationships, like the ones in this study, there is an on-going stream of partner behavior that affirms or fails to affirm the ideal self. If partner affirmation influences growth toward one's ideal and self-esteem in the way hypothesized, then the levels of partner affirmation, growth toward one's ideal, and self-esteem

should fluctuate together. To test this I predicted Michelangelo phenomenon dependent variables (e.g., growth toward the ideal self) from Michelangelo phenomenon independent variables (e.g., behavioral affirmation)—after controlling for the relevant dependent variable score assessed two weeks earlier. I assessed the independent variable simultaneously with the dependent variable (rather than assessing it at the previous wave) because partner affirmation, growth toward one's ideal, and self-esteem should fluctuate in tandem rather than partner affirmation necessarily causing an increase over time in growth toward one's ideal and self-esteem.

I hypothesize that partner affirmation will predict both growth toward one's ideal and self-esteem, and that growth toward one's ideal will mediate the association of partner affirmation with self-esteem. Further, partner affirmation, growth toward one's ideal, and self-esteem should fluctuate in tandem with each other.

Additionally, this study controlled for a potential alternative explanation for the influence of partner affirmation on self-esteem: partner acceptance. Self-esteem has been shown to increase with social acceptance and decrease with social rejection (Leary et al., 1995; Leary & Baumeister, 2000). Partner affirmation could promote feelings of social acceptance (conceptualized here as the opposite of social rejection), which could, in turn, cause the increase in self-esteem. The current study assesses partner acceptance and controls statistically for its influence on self-esteem to test whether partner affirmation (a) is an independent process that uniquely influences self-esteem or (b) is simply partner acceptance in disguise.

### *Method*

#### *Participants*

Sixty-nine first-years (35 women, 34 men) at a private, Midwestern university were recruited via flyers posted around campus to participate in a six month longitudinal study of

dating processes. To be eligible for inclusion in the study, participants must have been (a) a first-year undergraduate student at Northwestern University, (b) involved in a dating relationship of at least two months in duration, (c) between 17 and 19 years old, (d) a native English speaker, and (e) the only member of a given relationship to participate in the study. The participant retention rate was excellent, with all participants completing the study and 67 of them completing at least 12 of the 14 online measures. During the course of the study, the relationships of 26 participants ended. In these cases, data are included until relationship termination.

The mean age of participants at the beginning of the study was 18. The majority of participants were Caucasian (74% Caucasian, 12% Asian American, 3% Hispanic, 1% African American, and 10% other), and had been dating their current partner for an average of 13.05 ( $sd = 9.76$ ) months.

### *Procedure*

The current study was part of a larger investigation of dating processes. Participants completed a 10- to 15-minute online questionnaire every other week for six months (14 online sessions in total). Unless otherwise noted, all items were assessed on scales ranging from 1 (*disagree strongly*) to 7 (*agree strongly*). Brief measures were used to assess all constructs because participants would be completing nearly identical questionnaires 14 times in six months.

### *Materials*

As part of the 14 biweekly online questionnaires, participants completed 1-item measures assessing partner behavioral affirmation (“My partner behaves toward me as if I already possess the characteristics of my ideal self”), growth toward one’s ideal (“I am making good progress toward becoming closer to my ‘ideal self’”), self-esteem (“I have high self-esteem”; Robins,

Hendin, & Trzesniewski, 2001), and partner acceptance (“Sometimes, I feel rejected by my partner”; reverse-coded).

### *Analysis Strategy*

I employed multilevel data analytic strategies (cf. Raudenbush & Bryk, 2002) that researchers have adapted for analyzing diary data (e.g., Bolger, Davis, & Rafaeli, 2003; Nezlek, 2001). The two-level data structure included measures assessed on each of the online questionnaires (Level 1) nested within each participant (Level 2). For example, a participant involved in the same romantic relationship throughout the study who completed all online data collection waves provided 14 different associations of partner behavioral affirmation with growth toward one’s ideal. These 14 nested observations violate the Ordinary Least Squares regression assumption of independence. Multilevel modeling approaches provide unbiased hypothesis testing by simultaneously examining variance associated with each level of nesting.

### *Results*

Consistent with predictions, concurrent analyses revealed that partner affirmation predicted greater growth toward one’s ideal,  $\beta = .23$ ,  $t(648) = 6.68$ ,  $p < .001$ . Additionally, partner affirmation predicted greater self-esteem,  $\beta = .15$ ,  $t(648) = 4.46$ ,  $p < .001$ . In a simultaneous multilevel regression analyses, partner affirmation continued to predict self-esteem,  $\beta = .11$ ,  $t(647) = 3.36$ ,  $p < .001$ , above and beyond the effects of partner acceptance,  $\beta = .07$ ,  $t(647) = 2.91$ ,  $p = .003$ .<sup>4</sup>

To test whether growth toward one’s ideal mediates the association between partner affirmation and self-esteem, I performed a concurrent mediational analysis following the standard procedures presented by Baron and Kenny (1986). Results from the analyses are depicted in Figure 2. In the Step 1 analysis, partner affirmation significantly predicted self-

esteem (as presented above and in Figure 2). In the Step 2 analysis, partner affirmation significantly predicted growth toward one's ideal (as presented above and in Figure 2). In the Step 3 analysis (a simultaneous multilevel multiple regression analysis), growth toward one's ideal significantly predicted self-esteem,  $\beta = .36$ ,  $t(734) = 11.68$ ,  $p < .001$ , even after controlling for the significant association of partner affirmation on self esteem,  $\beta = .07$ ,  $t(734) = 2.32$ ,  $p = .02$  (see Figure 2). A Sobel test indicated that growth toward one's ideal significantly (albeit partially) mediated the relationship between partner affirmation and self-esteem,  $z = 6.51$ ,  $p < .001$ .

To examine the relationship between partner affirmation, growth toward one's ideal, and self-esteem, I conducted analyses predicting each outcome variable from the independent variable, controlling for the outcome variable assessed two weeks earlier. As predicted, later partner affirmation predicted later growth toward one's ideal self when controlling for earlier growth toward one's ideal,  $\beta = 0.212$   $t(601) = 6.10$ ,  $p < .001$ . Also, later partner affirmation predicted later self-esteem when controlling for earlier self-esteem,  $\beta = 0.19$ ,  $t(601) = 5.27$ ,  $p < .001$ . Later partner affirmation continued to predict later self-esteem,  $\beta = 0.12$ ,  $t(600) = 3.33$ ,  $p < .001$ , above and beyond the effects of later partner acceptance,  $\beta = 0.07$ ,  $t(600) = 3.45$ ,  $p < .001$ , after controlling for earlier self-esteem.

To test the mediational hypothesis, I examined whether later growth toward the ideal mediated the relationship between later partner affirmation and later self-esteem when controlling for the earlier levels of all three variables. In step 1, later partner affirmation predicted later self-esteem when controlling for earlier self-esteem,  $\beta = 0.17$ ,  $t(601) = 5.21$ ,  $p < .001$ . In Step 2, later partner affirmation predicted later growth toward one's ideal self when controlling for earlier growth toward one's ideal,  $\beta = 0.21$   $t(601) = 6.10$ ,  $p < .001$ . In Step 3, later

growth toward one's ideal predicted later self-esteem when controlling for earlier self-esteem,  $\beta = 0.31$   $t(600) = 9.18$ ,  $p < .001$ . The Sobel test was significant,  $z = 5.73$ ,  $p < .001$ , indicating that growth toward the ideal mediated the relationship between partner affirmation and self-esteem.

### *Discussion*

Study 1 largely supported the Michelangelo phenomenon model and its relationship with self-esteem. The more participants felt like their partner treated them in a manner consistent with their ideal self, the closer they reported being to their ideal self. Further, partner affirmation was related to higher levels of self-esteem. Growth toward the ideal statistically mediated this relationship between partner affirmation and self-esteem as predicted, although firm conclusions about causal pathways await replication with experimental data.

The results from the second analyses examining whether partner affirmation, growth toward one's ideal, and self-esteem fluctuated in tandem also supported my hypotheses. Partner affirmation predicted increases in growth toward the ideal and increases in self-esteem, controlling for the relevant earlier assessment of the dependent variables. The more participants reported being affirmed by their partner, the more they grew toward their ideal self and had increased self-esteem. Further, growth toward the ideal mediated the relationship between partner affirmation and self-esteem over time.

Further, Study 1 distinguished between the effects of partner affirmation and partner acceptance. Being treated in accordance with one's ideal self will likely elicit feelings of acceptance and acceptance has been shown to increase self-esteem (e.g., Leary et al., 1995; Leary & Baumeister, 2000). This study demonstrated that partner affirmation is not simply partner acceptance in disguise, but an independent process that uniquely influences self-esteem.



## Study 2

In previous research on the Michelangelo phenomenon and in Study 1, the Michelangelo phenomenon model was tested using correlational and longitudinal methodologies. These methods do not allow for causal conclusions. Study 2 expands on this previous research by providing the first experimental test of the Michelangelo phenomenon model. I manipulated whether participants experienced partner affirmation in an interaction with a confederate and examined how this influenced both growth toward one's ideal and self-esteem.

Additionally, this study tests the boundary conditions of the type of relationship in which the Michelangelo phenomenon can occur. Traditionally, and in Study 1, researchers have examined the Michelangelo phenomenon in the context of married or dating relationships. Study 2 examines whether the Michelangelo phenomenon can occur in social interactions where a minimal social relationship exists: in a brief interaction between strangers.

Several differences exist between one short interaction with a stranger and an on-going series of interactions between romantic partners that have important implications for understanding the Michelangelo phenomenon. Strangers have not interacted previously and presumably will have no future interactions, while romantic partners are in on-going interactions in which they are mutually interdependent. When the Michelangelo phenomenon occurs among romantic partners, there are a series of affirmations that leads to a collective series of growth. Between strangers the affirmation takes the form of a discrete event equivalent to one discrete affirmation in the series of affirmations that occur in romantic relationships.

## *Method*

### *Participants*

Thirty-six psychology students (18 women, 18 men) at a private, Midwestern university participated in the study in exchange for class credit. Two participants who did not correctly complete the task were not included in the above sample of 36 participants. The median age was 19. The sample was 82.9% Caucasian, 8.6% Asian American or Pacific Islander, 2.9% African American, 2.9% Hispanic or Latino, and 2.9% other or mixed race.

### *Background Measures*

In a previous, seemingly unrelated mass-testing session, participants selected from a list of 16 traits the two traits that best described the person they would ideally like to become (their ideal self) and the two traits that were least relevant both to the person they are now and to the person they would ideally like to become (their irrelevant self; see Appendix A). For each of the four traits each participant selected, he or she answered the following questions on a scale ranging from 1 (*not at all*) to 7 (*extremely*). To assure that the traits listed were truly part of the participant's ideal or irrelevant self, participants indicated, (a) "How central is this trait to how you think about yourself," and (b) "How central is this trait to the person you would like to become?"

### *Procedure*

Participants came individually to the laboratory and were joined by an opposite-sex confederate the participant believed was a naïve participant. The experimenter introduced the study to the participant and the confederate and then put them in separate rooms to complete a pre-test questionnaire, which consisted of measures of growth toward one's ideal, the target trait, and self-esteem (see Appendix B).

After the participant had completed the questionnaire, the experimenter collected it and, to support the cover story, told him or her that they had to wait a minute while the other participant (the confederate) completed the questionnaire. After approximately 30 seconds, the experimenter brought the confederate back into the room with the participant and introduced the interaction task, which allowed me to implement the manipulation of the independent variable, partner affirmation. The participant and the confederate engaged in two 4-minute interactions with each other, during which the confederate behaved toward the participant as if he or she possessed a trait (the target trait) of either the participant's ideal or irrelevant self.

The two interactions consisted of a "get-to-know-you" conversation and an art interpretation task; the experimenter presented these two tasks in counterbalanced order across participants. For the get-to-know-you conversation, the experimenter instructed participants to get acquainted and try to ask each other questions that would help them form an impression of the other person. In the art interpretation task, the experimenter gave the participant and the confederate eight pictures of paintings and photographs and instructed them to discuss their evaluations and interpretations of each picture.

The target trait was selected idiographically for each participant from the trait ratings he or she made during the prior background measures session. An ideal trait was only used as the target trait if participants rated it as highly central to the person they would like to become (rating of 5 to 7). An irrelevant trait was only used as the target trait if the participant rated it as not central to how they thought about themselves (rating of 1-3). Beyond these requirements, participants were randomly assigned to condition. The confederate received the target trait immediately prior to the interaction and was blind to condition.

The confederates underwent extensive training to learn to treat the participant as if he or she possessed the target trait. In the training process, the confederates learned about behavioral affirmation and upward and downward social comparisons and practiced applying these general strategies. Additionally, the confederates utilized a training manual (see Appendix C) that included definitions and synonyms for each of the 16 traits. The confederates and I then developed several strategies to affirm each trait. The confederate memorized and practiced these strategies to use as needed in the interaction with the participant. Due to the fluid nature of the interaction and the several different traits that were used, the confederate's behavior could not be strictly scripted. The different strategies to affirm each trait gave the confederates concrete behaviors to use in the interaction, while also offering them the flexibility needed to optimally affirm the target trait. For example, to affirm the trait 'independent,' confederates might discuss how they prefer to do class projects alone, ask the participant about his or her parents and highlight independent themes, or discuss activities the participant prefers to do alone. The confederates extensively practiced affirming the traits until I judged that they had mastered the affirmation strategies for all of the traits.

After the participant and the confederate engaged in the two 4-minute interactions, the latter moved to a different room and the experimenter administered to the participant the post-test questionnaire, which included the same measures assessed in the pre-test and measures of perceptual and behavioral affirmation and the characteristics of the interaction (see Appendix D). Lastly, the participant was probed for suspicion, fully debriefed, and thanked.<sup>5</sup>

### *Measures*

*Manipulation check.* The manipulation check consisted of the participants' self-ratings on the target trait. Embedded in a list of 30 traits, participants rated the extent to which the two ideal

and two irrelevant traits they selected during the background testing session applied to them on a scale from 1 (*not at all*) to 7 (*extremely*).

*Growth toward one's ideal.* Growth towards one's ideal was assessed with the item, "Right now, at the present moment, how much overlap is there between the person you actually are (your actual self: the traits you currently possess) and the person you would ideally like to be (your ideal self)," on a scale ranging from 1 (*no overlap*) to 100 (*complete overlap*).

*Self-esteem.* Self-esteem was assessed using a state-level adaptation of the Single-Item Self-Esteem Scale developed by Robins et al., (2001). Participants indicated, "To what extent do you have high self-esteem right now," on a scale from 1 (*extremely low self-esteem*) to 100 (*highest possible self-esteem*).

*Perceptual and behavioral affirmation.* Participants answered the following questions on scales ranging from 1 (*not at all*) to 7 (*extremely*). Perceptual affirmation was measured with the item, "To what degree do you think that your interaction partner perceived you in a manner consistent with your ideal self?" Behavioral affirmation was measured with the item, "To what degree did your interaction partner behave toward you in a manner consistent with your ideal self?"

*Characteristics of the interaction.* Participants rated (a) "How much did you like your interaction partner," (b) "How much do you think your interaction partner liked you," (c) "How enjoyable did you find your interaction with this person," (d) "How much would you want this person as a friend," (e) "How much would you want this person as a romantic partner," (f) "How similar are you and your interaction partner," and (g) "How much do you think your interaction partner was flirting with you?" Participants responded to the first two questions on a scale that

ranged from 1 (*strongly disliked*) to 7 (*strongly like*) and the remaining questions on a scale that ranged from 1 (*not at all*) to 7 (*extremely*).

## *Results*

### *Manipulation check*

A 2 (Affirmation: ideal trait vs. irrelevant trait)  $\times$  2 (Time: time 1 vs. time 2) mixed design analysis of variance (ANOVA) was performed predicting participants' self-ratings on the target trait with time as the within-subjects variable. If the manipulation was successful, there will be a main effect of time, indicating the interaction manipulation increased participants' self-ratings on the target trait, but no Affirmation  $\times$  Time interaction, indicating that self-ratings of the target trait increased equally across both affirmation conditions. These analyses revealed a main effect of time,  $F(1, 34) = 6.51, p = .01$ . Collapsing across the two affirmation conditions, participants reported possessing more of the target trait at time 2 ( $M = 4.72, SD = 1.55$ ) than at time 1 ( $M = 4.33, SD = 1.39$ ). Across conditions, the confederates successfully made participants feel as if they (the participants) possessed more of the target trait.

The Affirmation  $\times$  Time interaction was not statistically significant,  $F(1, 34) = 0.02, p = .89$ , indicating that the confederates successfully behaved toward the participant as if the participant possessed the target trait across both affirmation conditions. Additionally, these analyses also revealed a main effect of affirmation,  $F(1, 34) = 5.16, p = .03$ . Collapsing across the background and post-test session, participants' self-ratings of the target trait were higher in the ideal self condition ( $M = 5.03, SD = 1.14$ ) than in the irrelevant trait condition ( $M = 4.03, SD = 1.60$ ).

### *Growth toward one's ideal self*

A 2 (Affirmation: ideal trait vs. irrelevant trait)  $\times$  2 (Time: time 1 vs. time 2) mixed design ANOVA was performed on growth toward one's ideal self. This analysis revealed a main effect of time on growth toward one's ideal,  $F(1, 34) = 11.69, p = .002$ , with participants reporting greater similarity to their ideal self at time 2 ( $M = 76.95, SD = 9.01$ ) compared to time 1 ( $M = 74.39, SD = 9.97$ ). This analysis revealed no main effect of condition,  $F(1, 34) = .28, p = .60$ . The main effect of time was qualified by an Affirmation  $\times$  Time interaction,  $F(1, 34) = 4.04, p = .05$  (see Figure 3). Consistent with predictions, tests of simple effects revealed that growth toward one's ideal increased from time 1 to time 2 in the ideal self condition,  $F(1, 34) = 13.96, p < .001$ , but not in the irrelevant self condition,  $F(1, 34) = 1.05, p = .31$ .

### *Self-esteem*

A 2 (Affirmation: ideal trait vs. irrelevant trait)  $\times$  2 (Time: time 1 vs. time 2) mixed design ANOVA was performed on self-esteem. This analysis revealed a main effect of time on self-esteem,  $F(1, 34) = 22.08, p < .001$ , with participants reporting higher self-esteem at time 2 ( $M = 78.33, SD = 14.62$ ) than time 1 ( $M = 74.64, SD = 15.75$ ). The effect of affirmation was not statistically significant,  $F(1, 34) = 0.02, p = .88$ . The main effect of time was qualified by an Affirmation  $\times$  Time interaction,  $F(1, 34) = 12.20, p = .001$  (see Figure 4). Consistent with predictions, tests of simple effects revealed that self-esteem increased from time 1 to time 2 in the ideal self condition,  $F(1, 34) = 31.79, p < .001$ , but not in the irrelevant self condition,  $F(1, 34) = 0.77, p = .39$ . The Affirmation  $\times$  Time interaction on self-esteem remained significant,  $F(1, 32) = 13.57, p = .001$ , after controlling for partner acceptance which was not significant,  $F(1, 43) = 0.80, p = .38$ . Further, the Affirmation  $\times$  Time interaction remained significant,  $F(1, 31) =$

13.05,  $p = .001$ , after controlling for the Affirmation  $\times$  Acceptance interaction,  $F(1, 31) = 0.20$ ,  $p = .66$ .

### *Mediational Analysis*

Following the procedure recommended by Cole and Maxwell (2003) for two-wave longitudinal data, I examined whether growth toward one's ideal mediated the relationship between affirmation and self-esteem. Affirmation condition was dummy coded, 0 = irrelevant trait condition and 1 = ideal trait condition. In Step 1, affirmation condition predicted Time 2 self-esteem when controlling for Time 1 self-esteem,  $\beta = .18$ ,  $t(33) = 3.58$ ,  $p = .001$ . In Step 2, affirmation condition predicted Time 2 growth toward one's ideal when controlling for Time 1 growth toward one's ideal,  $\beta = .17$ ,  $t(33) = 2.25$ ,  $p = .03$ . In Step 3, growth toward one's ideal did not predict Time 2 self-esteem when controlling for Time 1 self-esteem, affirmation condition and Time 1 growth toward one's ideal,  $\beta = .20$ ,  $t(31) = 1.60$ ,  $p = .12$ , indicating that growth toward the ideal did not mediate the relationship between affirmation condition and changes in self-esteem.

### *Perceptual and behavioral affirmation*

Two One-Way ANOVAs separately explored the effects of affirmation condition on reports of both perceptual affirmation and behavioral affirmation. These analyses revealed no significant effects. These null results suggest that participants were not able to accurately discern when the partner was affirming their ideal self.<sup>6</sup>

### *Social Interaction Questions*

One-Way ANOVAs examining the effects of affirmation were performed on each of the questions asking about the interaction with the confederate. These analyses revealed no significant effects for how much participants liked the confederate, enjoyed the interaction,



would like the confederate as a friend or a romantic partner, rated the confederate as similar to themselves, or perceived the confederate as flirting with them (all  $ps > .13$ ). These analyses did reveal a marginal main effect of affirmation condition on how much the participant thought the confederate liked him or her,  $F(1, 33) = 3.02, p = .09$ . Participants in the irrelevant trait condition ( $M = 5.21, SD = 0.63$ ) thought that the confederate liked them more than did participants in the ideal self condition ( $M = 4.75, SD = .93$ ). As discussed above, the Affirmation  $\times$  Time interaction on self-esteem remained significant after controlling for how much the participant thought the confederate liked him or her.

### *Discussion*

Study 2 was the first experimental test of the Michelangelo phenomenon. Results revealed that partner affirmation causes increases in growth toward one's ideal and in self-esteem. Additionally, partner affirmation increased self-esteem above and beyond the effects of partner acceptance, which suggests that partner affirmation is not partner acceptance in disguise, but rather a distinct interpersonal process that uniquely influences self-esteem.

Further, this study demonstrated that the Michelangelo phenomenon can occur in brief interactions between strangers. Prior research on the Michelangelo phenomenon has focused on dating or married couples, since it has been assumed that it is in these close, on-going relationships that the Michelangelo phenomenon would be most likely to occur (Drigotas et al., 1999). In the present study, however, the Michelangelo phenomenon occurred among strangers during eight minutes of interaction. Therefore, it is likely that the Michelangelo phenomenon can occur in a variety of different types of relationships with widely varying degrees of intimacy. To be sure, the Michelangelo phenomenon was more likely to occur in this experimental situation than in brief interactions between strangers in real world situations because the perceiver had

previous knowledge of the individual's ideal self and underwent training on how to affirm that particular self-concept. However, to the extent that the perceiver is perceptive and skilled at affirming the partner, similar outcomes could be found in real world contexts. Not only significant others, but perhaps also strangers in the checkout lane, can help you to become more like the person you would like to become.

### Study 3

Studies 1 and 2 demonstrated that partner affirmation results in growth toward the self's ideal and increases in self-esteem. However, given the self-esteem debate discussed earlier, what are the consequences of high self-esteem for the individual? Does this boost in self-esteem lead to a confident, well-adjusted person who is able to deal easily with life's challenges, or to an angry, defensive person who acts out against others? Consistent with the argument of Kernis (2003), I argue that the benefits of self-esteem are linked to the particular type of self-esteem affected. If the Michelangelo phenomenon increases secure self-esteem, then people should display less defensive behavior after partner affirmation. Studies 3 and 4 explore the type of self-esteem that is increased by partner affirmation and whether this increase in self-esteem reduces defensive behaviors.

No direct measure of secure self-esteem currently exists, so it can only be measured indirectly by assessing its components and correlates. In Study 3, authenticity and high explicit and implicit self-esteem will be used as proxies for assessing secure self-esteem. Kernis (2003) discussed authenticity as the hallmark of secure self-esteem. The current study will test the effects of partner affirmation on authenticity to examine whether partner affirmation promotes secure self-esteem.

Additionally, high explicit and implicit self-esteem are one of several components of secure self-esteem (Kernis, 2003). The current study will test the effects of partner affirmation on explicit and implicit self-esteem to examine whether partner affirmation promotes secure self-esteem, where explicit and implicit self-esteem are both high. Implicit self-esteem can be raised via conditioning methods (Baccus, Baldwin, & Packer, 2004; Dijksterhuis, 2004), but research examining implicit self-esteem as an outcome variable is still in the early stages. I hypothesize that partner affirmation is an interpersonal means to raise implicit self-esteem.

Testing the links between partner affirmation and secure self-esteem is valuable, but it does not prove that partner affirmation has positive outcomes for individuals whose interaction partner affirms them. As Baumeister and colleagues (2003) argue, self-esteem is only a meaningful outcome to the extent that it leads to other positive outcomes. Defensive behavior is common among individuals high in fragile self-esteem, particularly in response to ego threat (e.g., Kernis, Granneman, & Barclay, 1989; Kernis, Cornell, Sun, Berry, & Harlow, 1993; Fein & Spencer, 1997). Therefore, the current study will also examine whether partner affirmation can reduce defensive behaviors, particularly anger. Other defensive behaviors, self-serving inference and discrimination, will be examined in Study 4.

In addition to anger generally being an aversive emotion to experience, it also has been implicated in violent crimes (Maiuro, Cahn, Vitaliano, Wagner, & Zegree, 1988), as a component of various psychological disorders (Novaco, 1986), and a risk factor in coronary heart disease (Diamond, 1982). Anger is a common response to interpersonal threats to self-esteem, such as insults or criticism (e.g. Novaco 1975; Wills, 1981). Higher levels of anger is also related to unstable self-esteem, which refers to multiple short-term fluctuations in global self-evaluation (Kernis et al., 1989; Waschull & Kernis, 1996). Unstable self-esteem is a

component of fragile self-esteem, the opposite end of the spectrum from secure self-esteem.

Therefore, I hypothesize that (a) partner affirmation will lead to lower levels of anger and (b) this relationship will be mediated by secure self-esteem.

Lastly, the current study will expand on Study 2 by experimentally distinguishing between the influence of the Michelangelo phenomenon from another interpersonal process. In Studies 1 and 2, the Michelangelo phenomenon influenced self-esteem above and beyond the effects of partner acceptance. The current study will experimentally separate the effects of partner affirmation and partner verification. Partner verification refers to the process by which the partner's behavior elicits characteristics that the self believes it possesses. For example, people with high self-esteem prefer positive partner regard because it corroborates their self-view, whereas people with low self-esteem dislike positive regard because it conflicts with their self-view (Swann, De La Ronde, & Hixon, 1994). Partner verification is distinct from partner affirmation in that verification involves the self's perceptions of its current, actual self, independent of the person the self wants to become in the future. Partner affirmation, in contrast, involves the ideal self one might become in the future. To the extent that the actual self is similar to the ideal self, the partner's behavior toward the self may simultaneously verify the actual self and affirm the ideal self. Previous research examining the correlations between partner affirmation and partner verification found that both processes uniquely predicted variance in couple well-being (Drigotas et al., 1999; Rusbult et al., 2005). This research suggests that both partner verification and partner affirmation will influence self-esteem, but that partner verification will not be able to account for the influence of partner affirmation on self-esteem.

In the current study, I experimentally separated these two processes by including two ideal self conditions: one in which the actual self was discrepant from the ideal and another in which

the actual self and the ideal self were the same (non-discrepant). In the discrepant ideal trait condition, partner affirmation is not confounded with partner verification because the actual self is discrepant from the ideal trait that is being affirmed. In the non-discrepant ideal trait condition, partner affirmation and partner verification occur simultaneously (and cannot be distinguished) because the partner perceives the individual consistently with the individual's actual self. By comparing the influence of partner affirmation on these two conditions, the influence of partner affirmation and partner verification can be more clearly parsed. When experiencing partner affirmation, non-discrepant ideal trait individuals should not demonstrate growth toward one's ideal because they have already obtained that ideal, although they should still experience an increase in self-esteem. In contrast, when experiencing partner affirmation, discrepant ideal trait individuals should experience both growth towards one's ideal and an increase in self-esteem.

### *Method*

#### *Participants*

Fifty-six psychology students (24 women, 32 men) at a private, Midwestern university participated in exchange for class credit.<sup>7</sup> The median age was 18. The sample was 66% Caucasian, 29% Asian American or Pacific Islander, 4% Hispanic or Latino, and 2% other or mixed race.

#### *Background Measures*

In a previous, seemingly unrelated mass-testing session, participants completed the same measures of ideal and irrelevant traits that were used in Study 2. They also completed measures of global partner affirmation, growth towards one's ideal, and self-esteem (see Appendix 5). Global partner affirmation was assessed with the item, "To what extent do other people perceive

and behave toward you as if you were the person you ideally would like to become (your ideal self)?” Growth towards one’s ideal was assessed using the same one-item measure used in Study 2. Global explicit self-esteem was assessed using Rosenberg’s (1965) Self-Esteem Scale, which is a widely used scale with good psychometric properties. Participants rated on a 7-point scale ranging from *strongly disagree* to *strongly agree* the extent to which 10 statements are true of them. Typical statements include “I feel that I am a person of worth, at least on an equal basis with others,” “All in all, I’m inclined to feel that I am a failure,” and “On the whole, I am satisfied with myself.”

### *Procedure and Materials*

The participant and an opposite-sex confederate the participant believed was a naïve participant came to the laboratory to participate in a study examining emotional styles and social interaction. The confederate and the participant read and signed consent forms. Embedded in the consent form given to the confederate was the target trait that the confederate would affirm in the interaction task (Appendix 6). Next, the participant and the confederate engaged in the interaction tasks in the same manner as in Study 2. The participant was assigned to one of three affirmation conditions. In the *discrepancy ideal trait condition*, the confederate behaved toward the participant as if he or she possessed a trait of his or her ideal self, and there was at least a 2-point difference between the actual and ideal self on the target trait. In the *no discrepancy ideal trait condition*, the confederate behaved toward the participant as if he or she possessed a trait of his or her ideal self, and the actual and ideal self were identical on the target trait. In the *irrelevant trait condition*, the confederate behaved toward the participant as if he or she possessed a trait irrelevant to the participant’s self-concept. The two ideal trait conditions were

matched for the degree to which the trait was part of the participant's ideal self. The confederate and experimenter were blind to affirmation condition.

Next, the experimenter gave the participant and the confederate seemingly identical packets of questionnaires to complete. In reality, the participant's and the confederate's packets differed (see Appendixes 7 & 8). The participant's packet included the dependent variables. The confederate's packet included questions about the interaction (the same questions used in Study 2) and ratings of the participant's traits and self-esteem. The confederate's packet was made to look similar and took approximately the same amount of time to complete as the participant's packet so the participant was unaware that the confederate was completing different questionnaires.

The participant's questionnaire packet began with the measures of the target trait, partner affirmation, and self movement toward the ideal that were used in Study 2. Next, the participant completed Goldman and Kernis's Authenticity Inventory (Kernis, 2003). In the Authenticity Inventory the participant rated 44 statements on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Typical items include, "I am aware when I am not being my true self," "I am willing to wear the right social mask for the right social occasion if it will get me what I want (reversed scored item)", and "I place a great deal of importance on close others understanding who I truly am."

Next, the participant completed measures of explicit and implicit self-esteem. Explicit self-esteem was assessed using the State Self-Esteem Scale (Heatherton & Polivy, 1991) used in Study 1. Implicit self-esteem was assessed using name-letter ratings. This measure is based on research demonstrating that people tend to evaluate the letters in their name more positively than letters not in their name, and individuals vary to the extent with which they demonstrate this

effect (Kitayama & Karasawa, 1997; Koole, Dijksterhuis, & van Knippenberg, 2001; Nuttin, 1985). Consistent with the procedure used by Nuttin (1985), the participant read instructions that said that the measure is concerned with people's aesthetic judgments of simple stimuli, more specifically letters of the alphabet. The instructions further explained that people may not be accustomed to evaluating letters, but previous research has shown that judgments such as this can reveal certain aspects of human emotions. The next page contained the letters of the alphabet presented in random order. For each letter, the participant evaluated the letter on a scale ranging from 1 (*not at all beautiful*) to 7 (*extremely beautiful*). The participant's name was taken from the consent form the participant signed at the beginning of the session to compute the name-letter rating.

People may perceive some letters more positively than others regardless of whether those letters are included in their name. To control for this, I calculated a baseline evaluation for each letter using the method developed by Kitayama and Karasawa (1997). The baseline attractiveness of each letter was calculated by averaging the attractiveness ratings of participants whose name did not include that letter. A difference score was computed between the evaluation of name letters and the evaluation of non-name letters. Positive scores indicate over-evaluation of name letters.

Next, to assess anger, the participant was instructed that the next task would measure emotional reactions to different hypothetical situations. The participant completed Novaco's (1975) Anger Inventory which consists of potential anger-arousing incidents (e.g., being stood up for a date; being called a liar). The participant rated the extent to which each scenario would arouse anger on a scale from 1 (*not at all*) to 7 (*very much*). The present study used 60 of the 90 anger-arousing incidents in the inventory; I omitted 30 of the incidents due to time constraints.



Lastly, the participant completed the questions about the interaction with the confederate that were used in Study 2.

## *Results*

### *Manipulation check*

A 3 (Affirmation: non-discrepant ideal trait vs. discrepant ideal trait vs. irrelevant trait)  $\times$  2 (Session: background measure vs. post-test) mixed design ANOVA was performed on the manipulation check (self-ratings of the target trait) with session as the within-subjects variable. This analysis revealed a main effect of session,  $F(1, 52) = 10.81, p = .002$ . Collapsing across the three affirmation conditions, participants reported possessing more of the target trait at post-test ( $M = 4.73, SD = 1.45$ ) than at the prior background session ( $M = 4.07, SD = 1.68$ ).

This main effect was qualified by a Session  $\times$  Condition interaction,  $F(2, 52) = 9.07, p < .001$  (see Table 1). Participants reported possessing more of the target trait at post-test compared to the background session for the discrepant ideal trait condition,  $F(1, 52) = 13.35, p < .001$ , and the irrelevant trait condition,  $F(1, 52) = 7.95, p = .006$  (see Figure 6). This change over time indicates that the confederates successfully made participants feel as if they possessed the target trait. Participants in the non-discrepant ideal trait condition did not show an increase over time,  $F(1, 52) = 2.50, p = .12$ , which is not surprising since these participants all rated themselves highly on the target trait at the background measure session leaving very little room for growth.

Additionally, these analyses revealed a main effect of affirmation,  $F(2, 52) = 54.32, p < .001$ . Collapsing across the background and post-test sessions, participants in the non-discrepant ideal trait condition ( $M = 5.72, SD = 1.10$ ) reported that they possessed more of the target trait compared to participants in the discrepant ideal trait condition ( $M = 4.36, SD = 1.37$ ),  $F(2, 52) = 28.60, p < .001$ , and the irrelevant trait condition ( $M = 3.11, SD = 1.33$ ),  $F(2, 52) = 108.58, p < .001$ .

.001. Participants in the discrepant ideal trait condition reported that they possessed more of the target trait compared to participants in the irrelevant trait condition,  $F(2, 52) = 17.37, p < .001$ .

#### *Growth toward one's ideal*

A One-Way ANOVA was performed examining the influence of affirmation condition on growth towards one's ideal. This analysis revealed no evidence that the mean level of growth differed across the three conditions,  $F(2, 53) = 1.36, p = .27$  (see Table 2).

#### *Authenticity*

A One-Way ANOVA was performed examining the effects of affirmation condition on authenticity. This analysis revealed no evidence that the mean level of authenticity differed across the three conditions,  $F(2, 53) = 1.17, p = .32$  (see Table 2).

#### *Explicit and implicit self-esteem*

Two One-Way ANOVAs were performed examining the influence of affirmation condition on self-esteem, one examining explicit self-esteem and the other examining implicit self-esteem. These analysis revealed no evidence that the mean level of explicit [ $F(2, 53) = 0.89, p = .42$  (see Table 3)] or implicit [ $F(2, 52) = 0.51, p = .60$  (see Table 3)] self-esteem differed across the three conditions.

#### *Anger*

A One-Way ANOVA was performed examining the influence of affirmation condition on anger. This analysis revealed no evidence that the mean level of anger differed across the three conditions,  $F(2, 53) = 0.68, p = .51$  (see Table 2).

#### *Mediational Analysis for the Background Session*

To test whether growth toward one's ideal mediates the association between global partner affirmation and self-esteem, I performed mediational analyses on the background

measures. Mediation analyses were only performed on the background measures because all three variables were not assessed during the experimental session and testing the mediation with variables assessed at different periods of time provides an unrealistically stringent test of the model (Swann, Chang-Schneider, & McClarty, 2007). Results from the analyses are depicted in Figure 7. In Step 1, global partner affirmation significantly predicted self-esteem,  $\beta = .26$ ,  $t(53) = 1.97$ ,  $p = .05$ . In Step 2, global partner affirmation significantly predicted growth toward one's ideal,  $\beta = .32$ ,  $t(54) = 2.50$ ,  $p = .01$ . In Step 3, growth toward one's ideal did not predict self-esteem when controlling for global partner affirmation,  $\beta = .14$ ,  $t(52) = 1.53$ ,  $p = .31$ . This analysis indicates that growth toward one's ideal did not mediate the relationship between global partner affirmation and self-esteem.

### *Discussion*

I hypothesized that partner affirmation would lead to growth toward one's ideal, higher explicit and implicit self-esteem, greater authenticity, and reduced anger. None of these hypotheses was supported. The manipulation check indicated that the manipulation was successful, so the null results are not due to a failure of the manipulation.

This study failed to replicate the findings of Study 2, in which the partner affirmation manipulation increased growth toward one's ideal and self-esteem. The same trait manipulation was used in both Studies 2 and 3. The largest difference between the two studies was that Study 2 had a mixed design while Study 3 had a between-subjects design. Having pre-test and post-test measures for all of the dependent measures in Study 2 allowed for a more sensitive test of the hypotheses because individual differences were controlled for. Looking back at the results of Study 2, there was no main effect of affirmation on the key analyses but the Time  $\times$  Affirmation interaction was significant. It could be that the effects are small enough or there is enough noise

in the non-scripted interaction that the between-subjects design was unable to capture the influence of partner affirmation that was occurring.

Further, different confederates and recruitment strategies were used in the two studies. The confederates in Study 2 were recruited from a group of psychology students that had expressed interest in being a research assistant. The confederates in Study 3 were recruited for their acting and performance experience and abilities. My ex-post facto perception is that the differences in recruitment strategies yielded differences in the personality of the confederates used in the two studies. The confederates in Study 3 were more outgoing, talkative, and high energy than the confederates in Study 2. These personality differences may have created an interpersonal dynamic that was less conducive for partner affirmation to occur. Participants may have experienced the confederates as controlling, un-genuine, or insincere in Study 3. Acting and performing in front of others requires exaggeration, while the interaction in this study requires the confederates to be as realistic as possible. The acting and performance experience of the confederates in Study 3 could have worked against them in being able to affirm the target trait in a realistic way. For whatever reason, it appears that in Study 3 the confederates were unable to affirm the participants' ideal self.

The mediational analyses did largely support the Michelangelo phenomenon model. Partner affirmation predicted growth toward one's ideal and explicit self-esteem as predicted. Counter to my hypotheses, growth towards one's ideal was not significantly correlated with explicit self-esteem. The same pattern of results was found in Study 2 (see Figure 5). In both studies, partner affirmation predicted growth toward one's ideal and self-esteem, but growth toward one's ideal did not predict self-esteem. There may be an important moderator of the relationship between growth toward one's ideal and self-esteem. Future research needs to explore

the relationship between growth toward one's ideal and self-esteem and test for potential moderators of this effect. Given that Study 1 and previous research (Drigotas, 2002) found support for the hypothesized mediational model, additional research needs to be done before any definitive conclusions regarding the link between growth toward one's ideal and self-esteem can be made.

#### Study 4

In many situations, the behavior of secure and fragile self-esteem individuals may be similar until some sort of ego threat is present, in which case individuals with fragile self-esteem will respond defensively (e.g., Baumeister et al., 1996; Heatherton & Vohs, 2000). Study 4 will explore the relationship between the Michelangelo phenomenon and secure self-esteem by giving participants false negative feedback on a cognitive task and then examining the degree to which they engage in defensive behaviors, namely self-serving inference and racial discrimination. If partner affirmation increases secure self-esteem, then participants whose ideal self had been previously affirmed should engage in less self-serving inference and racial discrimination than participants who had previously received positive or no trait feedback. I will clarify my explanation for these assertions below.

Additionally, Study 4 will assess secure self-esteem by examining a different component of secure self-esteem than was used in Study 3: namely the degree to which self-esteem is contingent on performance or on other's feedback. When self-esteem is secure, individuals' feelings of esteem are based more on an intrinsic sense of self, rather than on their performance or on the opinions and expectations of others.

### *Defensive Behavior*

#### *Self-serving inference*

Self-serving inference is a form of strategic self-defeating behavior used to impede performance in evaluative settings (Jones & Berglas, 1978; Snyder, Smith, Augeli, & Ingram, 1985). Self-serving inference allows individuals to make excuses for their failures and to take credit for their successes. For example, students who think their performance on an exam was influenced by staying up late drinking the night before will not view themselves as incapable if they perform badly on the exam (e.g., Baumeister & Scher, 1988; Jones & Berglas, 1978; Tice, 1991). Rather, the poor test scores can be seen as the result of partying too much. In contrast, if students perform well on the exam despite their late-night shenanigans, they can view themselves as particularly capable because they overcame these other factors influencing their performance. In sum, self-serving inference both (a) protects individuals from attributions for task performance that would reflect negatively on their ability and (b) boosts individuals' perceived ability in their own and other's eyes when they do well.

Engaging in self-serving inference has been linked to both unstable and contingent self-esteem. Individuals with high, unstable self-esteem were particularly likely to engage in self-serving inference after receiving negative feedback regarding a speech they gave (Kernis et al., 1993). Similarly, individuals who visualized a noncontingently accepting other engaged in less self-serving inference than individuals who had visualized a contingently accepting other (Ardnt, Schimel, Greenberg, & Pyszczynski, 2002). I predict that in the present study partner affirmation will increase noncontingent self-esteem, which will, in turn, lead to less self-serving inference.

### *Discrimination*

Another potential strategy to improve self-esteem after an ego threat is to derogate others (e.g., Fein & Spencer, 1997; Wills, 1981). Among individuals high in explicit self-esteem, those who had relatively low implicit self-esteem were particularly likely to engage in ethnic discrimination (Jordan et al., 2005). Individuals with secure self-esteem, where both implicit and explicit self-esteem are high, have a solid positive bases for their self-view, so they do not need to discriminate to boost their self-esteem. Therefore, I predict that partner affirmation will result in less discrimination because of an increase in secure self-esteem.

### *The Current Study*

In summary, Study 4 will further examine whether partner affirmation increases secure self-esteem and leads to positive outcomes for the individual and society. I predict that partner affirmation will lead to less contingent self-esteem, which will, in turn, lead to less self-serving inference and discrimination. Four new confederates conducted this experiment in order to test whether the inability to replicate the effects of Study 2 was due to characteristics of those particular confederates.

Additionally, the target trait was yoked between the ideal and irrelevant trait conditions. Each participant in the ideal self condition had the same target trait as a participant in the irrelevant self condition. For example, if a participant in the ideal trait condition rated creativity as his or her target trait then a participant who listed creativity as his or her irrelevant trait would be included in the irrelevant trait condition. Therefore, each trait was used as the target the same number of times in both the ideal and irrelevant trait conditions. Yoking ensures that no systematic differences were being introduced between the two conditions because of biases in the traits participants tended to pick for their ideal and irrelevant selves. For example, if

participants consistently rated intelligence as an ideal trait and thrill-seeking as an irrelevant trait than affirmation condition is confounded with the traits used. Differences between the two conditions could be explained by the different traits used, rather than due to whether the trait was part of the ideal or irrelevant self. By yoking the traits between the two conditions, any differences are due to whether the trait is part of the ideal or irrelevant self and not because of differences in the traits between the two conditions.

### *Method*

#### *Participants*

Sixty-seven psychology students (44 women, 22 men, 1 unknown) at a private, Midwestern university participated in the study in exchange for class credit.<sup>8</sup> The median age was 19. The sample was 62.1% Caucasian, 16.7% Asian American or Pacific Islander, 9.1% Hispanic or Latino, 3% Arab-American, and 9.1% other or mixed race.

#### *Background Session*

At a prior, apparently unrelated session, participants completed the same measures of their ideal and irrelevant traits, global partner affirmation, growth toward their ideal, and explicit self-esteem that were used in Study 3.

#### *Procedure and Materials*

The participant and an opposite-sex confederate the participant believed was a naïve participant came to the laboratory to participate in a study of personality and cognitive inference. As in Studies 2 and 3, the participant and the confederate engaged in the two 4-minute interaction tasks. As in Study 3, the confederate received the target trait embedded in the consent form. Participants were assigned either to the ideal trait or the irrelevant trait condition.



Next, the experimenter introduced the upcoming task, which the participant was told assesses cognitive inference. The experimenter explained that cognitive inference is an important ability that has found to be necessary for success at many different types of cognitive tasks, including good academic performance. The experimenter explained that participants would have four minutes to complete eight problems and not to worry if they could not complete all the problems in that time period. The participant then completed difficult items of the remote associates task (Di Paula & Campbell, 2002). In this task, participants attempted to generate a fourth word that is related to each of three provided words. For example, the word that is related to *treasure*, *hope*, and *toy* is *chest*. Briefly after completing the task the participant was given false negative feedback regarding his or her performance, indicating that the participant's score fell in the bottom third of students taking the test at Northwestern University. I used particularly difficult items of the remote associates task to make the false feedback believable.

The participant then completed a packet of questionnaires that included the same measures of the target trait, growth toward one's ideal, and explicit self-esteem used in Study 3. Also included in the questionnaire was a measure of contingent self-esteem and self-serving inference. Contingent self-esteem was measured using an adaptation of the Contingent Self-Esteem Scale (Paradise & Kernis, 1999; cited in Kernis, 2003). The measure consists of 15 items that participants rate on a scale ranging from 1 (*not at all like me*) to 7 (*very much like me*). Examples of items are "An important measure of my self-worth is how well I perform up to the standards that other people have set for me," and "Even in the face of failure, my feelings of self-worth remain unaffected." To get a state measure of contingent self-esteem, the instructions were adapted to assess how much each statement was like the participant "right now."

Self-serving inference was assessed using seven attribution questions drawn from previous research on attributional biases (e.g., Arndt et al., 2002; Stephan & Gollwitzer, 1981). Participants rated on a scale ranging from 1 (*not at all*) to 7 (*extremely*) how much each of seven factors influenced their performance on the remote associates task. These seven factors were: ability (reverse-coded), level of effort (reverse-coded), difficulty of the task, luck, current mood, the present testing conditions, and the reliability of the test (reverse-coded). A high score on these items indicates a greater tendency to attribute performance to external factors.

Next, participants completed the discrimination measure adapted from Jordan et al. (2005). Presented as a social decision-making task, the participant read 3 vignettes that described a case of student misconduct. For each case, the participant played the role of a disciplinary committee member and determined an appropriate punishment for the student. In each case, the student was clearly guilty of the offense. In the first case, the student damaged a vending machine. In the second case, a student was caught smoking marijuana in her dorm room. In the final case, which served as the discrimination manipulation, a student started a fistfight outside a campus bar. Participants were randomly assigned to receive one of two versions of the final case that described the student offender as either Robert Garner or Roberto Garcia. These names have been shown to successfully manipulate Hispanic and Caucasian ethnic identity (Bodenhausen, 1990).

The final vignette read,

The student offender, Roberto Garcia [Robert Garner], was asleep on a couch outside a campus bar late on a Friday night. It is unclear whether he had been drinking. He was disturbed by a group of students leaving the bar and they exchanged words. One student in the group, Ian Merritt, insulted

him by calling him an ‘asshole.’ The student offender then punched Merritt twice in the face.

For each of the vignettes, participants selected what they believed would be an appropriate punishment for the student offender. Participants answered the following questions assessing an appropriate punishment for the student offender in each vignette (a) “Student offenders can be required to take anger management courses. To what extent do you agree or disagree that Garcia/Garner should be required to take an anger management course,” (b) “To what extent do you agree or disagree that Garcia/Garner should be expelled from school,” (c) “To what extent do you agree or disagree that Garcia/Garner is a threat to other students on campus,” (d) “How severe a punishment does Garcia/Garner deserve,” (e) “How serious do you consider Garcia’s/Garner’s crime to be,” and (f) “How much of a negative impact do you think Garcia’s/Garner’s actions have had on the college community?” Participants rated their answers for the first three questions on a scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) and their answers for the last three questions on a scale ranging from 1 (*very mild*) to 7 (*very severe*). The first and fourth questions were taken from previous research utilizing this measure of discrimination (Bodenhausen, 1990; Jordan et al., 2005) and the remaining four questions were developed for the present research. The 6-items had a Cronbach’s alpha = .88, so the 6 questions were averaged together in a composite measure.

## *Results*

### *Manipulation check*

To ensure the manipulation was successful, a 2 (Affirmation: ideal trait vs. irrelevant trait) × 2 (Session: background vs. post-test) mixed design ANOVA was performed predicting participants’ self-ratings on the target trait. These analyses revealed a main effect of session,  $F(1,$

64) = 9.04,  $p = .004$ . Collapsing across the ideal and irrelevant trait conditions, participants reported possessing more of the target trait at post-test ( $M = 3.87$ ,  $SD = 1.55$ ) than at the prior background session ( $M = 3.43$ ,  $SD = 1.54$ ). Across conditions, the confederates made participants feel as if they (the participants) possessed more of the target trait.

Additionally, these analyses revealed a main effect of affirmation,  $F(1, 64) = 12.33$ ,  $p = .001$ . Collapsing across the background and post-test measures, participants in the ideal trait condition ( $M = 4.22$ ,  $SD = 1.53$ ) reported that they possessed more of the target trait compared to participants in the irrelevant trait condition ( $M = 3.08$ ,  $SD = 1.33$ ).

The Affirmation  $\times$  Session interaction was not statistically significant,  $F(1, 64) = 2.47$ ,  $p = .12$ , indicating that the change in participants' self-ratings of the target trait between the two sessions did not differ significantly between the two affirmation conditions.

#### *Growth toward one's ideal*

A One-Way ANOVA was performed examining the influence of affirmation on growth towards one's ideal. This analysis revealed no evidence that the mean level of growth differed across the two conditions,  $F(1, 64) = 0.08$ ,  $p = .78$  (see Table 3).

#### *Explicit self-esteem*

A One-Way ANOVA was performed examining the influence of affirmation on explicit self-esteem. This analysis revealed no evidence that the mean level of explicit self-esteem differed across the two conditions,  $F(1, 64) = 0.02$ ,  $p = .87$  (see Table 3).

#### *Contingent self-esteem*

A One-Way ANOVA was performed examining the influence of affirmation on contingent self-esteem. This analysis revealed no evidence that the mean level of contingent self-esteem differed across the two conditions,  $F(1, 64) = 1.31$ ,  $p = .26$  (see Table 3).

### *Mediational analysis*

I performed mediational analyses examining whether growth toward one's ideal mediated the relationship between partner affirmation and explicit self-esteem. Since the affirmation manipulation did not appear to be effective, participants' ratings of how much the confederate affirmed the participants' ideal self were used in the mediation analyses instead of affirmation condition. Results from the analyses are depicted in Figure 8. In Step 1, partner affirmation did not predict explicit self-esteem,  $\beta = .15$ ,  $t(65) = 1.20$ ,  $p = .24$ , indicating that there was no relationship between partner affirmation and explicit self-esteem to be mediated.

### *Self-serving inference*

A One-Way ANOVA was performed examining the influence of affirmation on self-serving inference. This analysis revealed no evidence that the mean level of self-serving inference differed across the two conditions,  $F(1, 64) = 0.51$ ,  $p = .48$  (see Table 3).

### *Discrimination*

A 2 (Affirmation: ideal trait vs. irrelevant trait)  $\times$  2 (Offender's Name: Roberto Garcia vs. Robert Garner) between-subjects ANOVA was performed on the severity of the student offender's punishment. This analysis revealed no evidence that the mean ratings of severity of the punishment differed across the two affirmation conditions,  $F(1, 62) = 0.51$ ,  $p = .48$ , or offender's name,  $F(1, 62) = 0.29$ ,  $p = .59$  (See Figure 9). Further, there was no evidence of an interaction between affirmation and discrimination,  $F(1, 62) = 0.02$ ,  $p = .88$ . These results indicate that participants in general were not discriminating against Roberto Garcia compared to Robert Garner.

### *Social interaction questions*

One-Way ANOVAs examining the effects of affirmation were performed on each of the questions asking about the interaction with the confederate. These analyses revealed no significant effects for how much the participants liked the confederate, enjoyed the interaction, would like the confederate as a friend or a romantic partner, rated the confederate as similar to themselves, or perceived the confederate as flirting with them (all  $ps > .14$ ). There was a marginal effect for how much the participant liked the confederate,  $F(1, 64) = 3.65, p = .06$ . Participants liked the confederate more in the ideal trait condition ( $M = 5.50, SD = 0.83$ ) than in the irrelevant trait condition ( $M = 5.03, SD = 1.15$ ). Also, there was a marginal effect for how much participants felt the confederate treated them like their ideal self,  $F(1, 64) = 2.83, p = .10$ . Participants thought the confederate affirmed them more in the ideal trait condition ( $M = 4.35, SD = 1.39$ ) compared to the irrelevant trait condition ( $M = 3.81, SD = 1.20$ ).

### *Discussion*

I hypothesized that compared to participants in the irrelevant self affirmation condition, participants in the ideal trait affirmation condition would have greater growth toward one's ideal, greater explicit self-esteem, and lower contingent self-esteem, self-serving inference, and discrimination. These hypotheses were not supported. As in Study 3, Study 4 failed to replicate the relationship between partner affirmation, growth toward one's ideal, and self-esteem found in Studies 1 and 2.

Since null results were found in both Study 3 and 4, some aspects of the experiment that were included in Study 4 but not Study 3 can be ruled out as explanations for why the two experiments did not support my hypotheses. First, new confederates were used in Study 4 to avoid possible complications stemming from confederates' personalities. I selected these

confederates based on my impression that they were less extroverted than those in Study 3 and had little or no acting experience. Additionally, the confederates were recruited to serve as research assistants and acting ability was not emphasized. Therefore, the null effects in Studies 3 and 4 are not likely to be due to the personality or characteristics of the confederates.

The affirmation manipulation used in Studies 2, 3, and 4 may be minimal enough that it does not reliably produce effects. Participants felt as if they possessed more of the target trait but a greater dosage may be required to put the Michelangelo phenomenon into motion. Participants interacted with the confederate for only eight minutes. People may need to be exposed to partner affirmation for longer periods of time for affirmation to be reliably effective. Also, the participants and confederates did not know each other and did not have any type of on-going relationship with each other. Some type of social relationship may have to exist for the Michelangelo phenomenon to reliably occur. Study 1 and previous research demonstrates that it does occur in the context of on-going romantic relationships. Future research could explore whether some type of on-going social relationship is a necessary condition for the Michelangelo phenomenon to reliably occur and how close and significant that relationship must be.

Study 4 also failed to replicate previous work showing discrimination against Hispanics (e.g., Bodenhausen, 1990; Jordan et al., 2005). This null effect may indicate that the participants do not hold a bias against Hispanics, or may indicate some artifact of the sample. For example, if participants were particularly motivated to control prejudice, they could have controlled what they perceived to be a potentially prejudiced response. Or participants may not have been particularly attentive to the experiment and trying to hurry through. Regardless, more research needs to be done to better understand the Michelangelo phenomenon and how it related to secure self-esteem and defensiveness.

## General Discussion

In summary, these four studies provide mixed support for the Michelangelo phenomenon and its relationship with secure self-esteem. In Study 1 with the concurrent analyses, my hypotheses were fully supported. Partner affirmation predicted growth toward one's ideal and self-esteem. Growth toward one's ideal mediated the relationship between partner affirmation and self-esteem. Additionally, partner affirmation, growth toward one's ideal, and self-esteem were found to fluctuate in tandem with each other.

Study 2 provided the first experimental test of the Michelangelo phenomenon model and examined whether the Michelangelo phenomenon can occur outside of romantic relationships in short interactions with new acquaintances. The majority of my hypotheses were supported. Partner affirmation increased growth toward one's ideal and self-esteem. Growth toward one's ideal did not mediate the relationship between partner affirmation and self-esteem. Partner affirmation was distinguished from partner acceptance, indicating that partner affirmation has unique consequences and is not partner acceptance in disguise.

In Study 3, the manipulation check suggested that the manipulation of partner affirmation was effective, but partner affirmation did not influence the dependent variables as predicted. An examination of the background measures revealed that global partner affirmation predicted growth toward one's ideal and self-esteem.

In Study 4, the manipulation check suggested that the manipulation of partner affirmation was effective, but partner affirmation did not influence the dependent variables as predicted. Examining the correlations between participants' ratings of the relevant variables revealed some support the Michelangelo phenomenon model. Partner affirmation marginally predicted growth



toward one's ideal but failed to predict self-esteem. Growth toward one's ideal predicted self-esteem.

Overall, these studies provide good evidence that partner affirmation predicts, and may cause, growth toward one's ideal and self-esteem. Whether growth toward one's ideal mediates the relationship between partner affirmation and self-esteem remains unclear. Some studies supported my mediational hypotheses, while others did not, largely because there was no relationship between partner affirmation and self-esteem. Partner affirmation and its effects were differentiated from partner acceptance, demonstrating that the Michelangelo phenomenon is a unique, independent process and not another interpersonal process in disguise. Due to the null effects in Study 3, I was not able to distinguish between the effects of partner affirmation and partner verification.

Experimental tests of the Michelangelo phenomenon model varied in their success. Study 2 manipulated partner affirmation and found that partner affirmation causes growth toward one's ideal and self-esteem. However, Studies 3 and 4 utilized the same manipulation and did not find any significant results. The manipulation check in these two studies indicated that the confederates successfully affirmed the target trait across conditions. The success of the manipulation check across all three studies presents the intriguing result that another person affirming a trait of the ideal self can increase the self's possession of that trait but not evoke the Michelangelo phenomenon. Future research should explore potential moderators that might explain this result. There may be some characteristic of the partner or the self that is necessary for the Michelangelo phenomenon to occur.

In a related issue, Studies 2 and 4 presented conflicting evidence regarding people's ability to accurately report when the self is being affirmed by the partner. In Study 2,

participants could not accurately predict whether their ideal self was affirmed by the confederate, while participants in Study 4 could accurately guess. Since Study 4 had null results, these effects suggest that the self may need to be unaware of the partner's affirmation for the affirmation to have the desired effect. However, in Study 1, participants self-reported on partner affirmation and my hypotheses were supported. Does the type and closeness of the relationship with the partner influence the ability of the self to accurately judge when affirmation is occurring?

The manipulation of partner affirmation used in Studies 2-4 raises conceptual questions about the nature of the Michelangelo phenomenon. Previous research has conceptualized growth toward the ideal as the actual self changing to become more like the fixed ideal. Growth toward one's ideal can also be conceptualized as a particular case of discrepancy reduction between the actual and ideal self. The discrepancy between the actual and ideal self can be reduced by the actual self becoming more like the ideal self or by the ideal self becoming more like the actual self. I argue that the Michelangelo phenomenon will only occur when the actual self becomes more like the ideal self. Future research should empirically test the outcomes of these two types of discrepancy reduction and determine whether they have unique consequences.

Research on the Michelangelo phenomenon is still in its infancy, with only two empirical articles currently published on the topic (Drigotas 2002; Rusbult et al., 1999). To learn more about partner affirmation and how it works, I think it would be beneficial to take a different approach and examine partner affirmation in natural contexts. This could take the form of asking people to talk or write about experiences they had when their ideal self was affirmed or when they affirmed someone else's ideal self. While certainly an imperfect approach because of memory and self-presentational biases, this approach offers initial insight into how partner affirmation works and how people understand this process. Complimenting this approach,

observing natural interactions in which the partner affirmation occurs could shed much light on the specific strategies utilized to affirm the self and the mechanisms underlying partner affirmation and its influence on growth toward one's ideal and self-esteem. These approaches could offer immense insight into the Michelangelo phenomenon and provide a model to design better manipulations of partner affirmation in the future.

Unfortunately, because of the failure to replicate the basic Michelangelo phenomenon model, the hypotheses regarding the relationship between partner affirmation, secure self-esteem, and defensiveness could not be tested. The interview and observational methods discussed above could begin to test the relationship between these variables correlationally. Then, as better manipulations of partner affirmation are developed, the relationship between partner affirmation and secure self-esteem can be more accurately tested experimentally.

What implications does this research have for Jerry? How will Dorothy's affirmation of his ideal self influence him? As is so often true in science and real-life, the answer is not entirely clear. As the result of Dorothy's affirmation, Jerry will likely become more like the moral, caring, client-centered sports agent he wants to be. He will likely feel better about who he is as a person, although the implications of that increase in self-esteem is unclear. Dorothy and Jerry's story ended happily, as love stories in movies often do. The rest of us will have to wait for future research to answer the numerous questions about how the Dorothy in our own lives influences us.

## References

- Arndt, J., Schimel, J., Greenberg, J., & Pyszczynski, T. (2002). The intrinsic self and defensiveness: Evidence that activating the intrinsic self reduces self-handicapping and conformity. *Personality and Social Psychology Bulletin*, 28, 671-683.
- Baccus, J. R., Baldwin, M. W., & Packer, D. J. (2004). Increasing implicit self-esteem through classical conditioning. *Psychological Science*, 15, 498-502.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37, 122-147.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in the Public Interest*, 4, 1-44.
- Baumeister, R. F., Heatherton, T. F., & Tice, D. M. (1993). When ego threats lead to self-regulation failure: Negative consequences of high self-esteem. *Journal of Personality and Social Psychology*, 64, 141-156.
- Baumeister, R. F., & Scher, S. J. (1988). Self-defeating behavior patterns among normal individuals: Review and analysis of common self-destructive tendencies. *Psychological Bulletin*, 104, 3-22.
- Baumeister, R. F., Smart, L., & Boden, J. M. (1996). Relation of threatened egoism to violence and aggression: The dark side of high self-esteem. *Psychological Review*, 103, 5-33.

- Bodenhausen, G. V. (1990). Stereotypes as judgmental heuristics: Evidence of circadian variations in discrimination. *Psychological Science, 1*, 319-322.
- Bolger, N., Davis, A., & Rafaeli, E. (2003). Diary methods: Capturing life as it is lived. *Annual Review of Psychology, 54*, 579-616.
- Bosson, J. K., Brown, R. P., Zeigler-Hill, V., & Swann., W. B., Jr. (2003). Self-enhancement tendencies among people with high explicit self-esteem: The moderating role of implicit self-esteem. *Self and Identity, 2*, 169-187.
- Bosson, J. K., Swann, W. B., Jr., & Pennebaker, J. W. (2000). Stalking the perfect measure of implicit self-esteem: The blind man and the elephant revisited? *Journal of Personality and Social Psychology, 79*, 631-643.
- Bowlby, J. (1969). *Attachment and loss: Vol. 1, Attachment*. New York: Basic Books.
- Cole, D. A., & Maxwell, S. E. (2003). Testing mediational models with longitudinal data: Questions and tips in the use of structural equation modeling. *Journal of Abnormal Psychology, 112*, 558-577.
- Crocker, J., & Wolfe, C. T. (2001). Contingencies of self-worth. *Psychological Review, 108*, 593-623.
- Cross, S. E., & Madson, L. (1997). Models of the self: Self-construals and gender. *Psychological Bulletin, 122*, 5-37.
- Darley, J. M., & Fazio, R. H. (1980). Expectancy confirmation processes arising in the social interaction sequence. *American Psychologist, 35*, 867-881.
- Deci, E. L., & Ryan, R. M. (1995). Human autonomy: The basis for true self-esteem. In M. Kernis (Ed.), *Efficacy, agency, and self-esteem* (pp. 31-49). New York: Plenum Press.

- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227-268.
- Devine, P. G. (1989). Stereotypes and prejudice: The automatic and controlled components. *Journal of Personality and Social Psychology, 56*, 5-18.
- Diamond, E. L. (1982). The role of anger and hostility in essential hypertension and coronary heart disease. *Psychological Bulletin, 92*, 410-433.
- Dijksterhuis, A. (2004). I like myself but I don't know why: Enhancing implicit self-esteem by subliminal evaluative conditioning. *Journal of Personality and Social Psychology, 86*, 345-355.
- Di Paula, A., & Campbell, J. D. (2002). Self-esteem and persistence in the face of failure. *Journal of Personality and Social Psychology, 83*, 711-724.
- Dovidio, J. F., Kawakami, K., Johnson, C., Johnson, B., & Howard, A. (1997). On the nature of prejudice: Automatic and controlled processes. *Journal of Experimental Social Psychology, 33*, 510-540.
- Drigotas, S. M. (2002). The Michelangelo phenomenon and personal well-being. *Journal of Personality, 70*, 59-77.
- Drigotas, S. M., Rusbult, C. E., Wieselquist, J., & Whitton, S. W. (1999). Close partner as sculptor of the ideal self: Behavioral affirmation and the Michelangelo phenomenon. *Journal of Personality and Social Psychology, 77*, 293-323.
- Emmons, R. A. (2003). Personal goals, life meaning, and virtue: Wellsprings of a positive life. In C. L. Keyes & J. Haidt (Eds.), *Flourishing: Positive psychology and the life well-lived* (pp. 105-128). Washington: APA.

- Fazio, R. H., Effrein, E. A., & Falender, V. J. (1981). Self-perceptions following social interactions. *Journal of Personality and Social Psychology*, 41, 232-242.
- Fein, S., & Spencer, S. J. (1997). Prejudice as self-image maintenance: Affirming the self through derogating others. *Journal of Personality and Social Psychology*, 73, 31-44.
- Freud, S. (1923). *The ego and the id*. New York: Norton.
- Goldman, B. M., & Kernis, M. H. (2002). The role of authenticity in healthy psychological functioning and subjective well-being. *Annals of the American Psychotherapy Association*, 5, 18-20.
- Gombrich, E. H. (1995). *The story of art*. London: Phaidon.
- Greenier, K. D., Kernis, M. H., & Waschull, S. B. (1995). Not all high (or low) self-esteem people are the same: Theory and research on stability of self-esteem. In M. H. Kernis (Ed.), *Efficacy, agency, and self-esteem*. New York: Plenum Press.
- Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review*, 102, 4-27.
- Harris, M. J., & Rosenthal, R. (1985). Mediation of interpersonal expectancy effects: 31 meta-analysis. *Psychological Bulletin*, 97, 363-386.
- Heatherton, T. F., & Polivy, J. (1991). Development and validation of a scale for measuring state self-esteem. *Journal of Personality and Social Psychology*, 60, 895-910.
- Heatherton, T. F., & Vohs, K. D. (2000). Interpersonal evaluations following threats to self: Role of self-esteem. *Journal of Personality and Social Psychology*, 78, 725-736.
- Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review*, 94, 319-340.

- Higgins, E. T. (1996). The “self-digest”: Self-knowledge serving self-regulatory functions. *Journal of Personality and Social Psychology*, 71, 1062-1083.
- Jones, E., & Berglas, S. (1978). Control of attributions about the self through self-handicapping strategies: The appeal of alcohol and role of underachievement. *Personality and Social Psychology Bulletin*, 4, 200-206.
- Jordan, C. H., Spencer, S. J., & Zanna, M. P. (2005). Types of high self-esteem and prejudice: How implicit self-esteem related to ethnic discrimination among high explicit self-esteem individuals. *Personality and Social Psychology Bulletin*, 31, 693-702.
- Jordan, C. H., Spencer, S. J., Zanna, M. P., Hoshino-Browne, E., & Correll, J. (2003). Secure and defensive high self-esteem. *Journal of Personality and Social Psychology*, 85, 969-978.
- Kernis, M. H. (2003). Toward a conceptualization of optimal self-esteem. *Psychological Inquiry*, 14, 1-26.
- Kernis, M. H., Cornell, D. P., Sun, C. R., Berry, A., & Harlow, T. (1993). There’s more to self-esteem than whether it is high or low: The importance of stability of self-esteem. *Journal of Personality and Social Psychology*, 65, 1190-1204.
- Kernis, M. H., Grannemann, B. D., & Barclay, L. C. (1989). Stability and level of self-esteem as predictors of anger arousal and hostility. *Journal of Personality and Social Psychology*, 56, 1013-1022.
- Kernis, M. H., & Paradise, A. W. (2002). Distinguishing between fragile and secure forms of high self-esteem. In E. L. Deci & R. M. Ryan (Eds.), *Self-determination: Theoretical issues and practical application*. Rochester, NY: University of Rochester Press.
- Kitayama, S., & Karasawa, M. (1997). Implicit self-esteem in Japan: Name letter and birthday numbers. *Personality and social Psychology Bulletin*, 23, 736-742.



- Koole, S. L., Dijksterhuis, A., & van Knippenberg, A. (2001). What's in a name: Implicit self-esteem and the automatic self. *Journal of Personality and Social Psychology*, 80, 669-685.
- Leary, M. R., & Baumeister, R. F. (2000). The nature and function of self-esteem: Sociometer theory. *Advances in Experimental Social Psychology*, 32, 1-61.
- Leary, M. R., Tambor, E. S., Terdal, S. K., & Downs, D. L. (1995). Self-esteem as an interpersonal monitor: The sociometer hypothesis. *Journal of Personality and Social Psychology*, 68, 518-530.
- Maiuro, R. D., Cahn, T. S., Vitaliano, P. P., Wagner, B. C., & Zegree, J. B. (1988). Anger, hostility, and depression in domestically violent versus generally assaultive men and nonviolent control subjects. *Journal of Consulting and Clinical Psychology*, 56, 17-23.
- Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist*, 41, 954-969.
- Maslow, A. H. (1962). *Toward a psychology of being*. Princeton, NJ: Van Nostrand.
- Meagher, B. E., & Aidman, E. V. (2004). Individual differences in implicit and declared self-esteem as predictors of response to negative performance evaluation: Validating implicit association test as a measure of self-attitudes. *International Journal of Testing*, 4, 19-42.
- Mecca, A. M., Smelser, N. J., & Vasconcellos, J. (1989). *The social importance of self-esteem*. Berkeley: University of California Press.
- Merton, R. (1948). The self-fulfilling prophecy. *Antioch Review*, 8, 193-210.
- Moretti, M. M., & Higgins, E. T. (1990). Relating self-discrepancy to self-esteem: The contribution of discrepancy beyond actual-self ratings. *Journal of Experimental Social Psychology*, 26, 108-123.

- Murray, S. L., Holmes, J. G., & Griffin, D. W. (1996). The self-fulfilling nature of positive illusions in romantic relationships: Love is not blind, but prescient. *Journal of Personality and Social Psychology*, 71, 1155-1180.
- Nezlek, J. B. (2001). Multilevel random coefficient analyses of event- and interval-contingent data in social and personality psychology research. *Personality and Social Psychology Bulletin*, 27, 771-785.
- Novaco, R. W. (1975). *Anger control: The development and evaluation of an experimental treatment*. Lexington, MA: Heath.
- Novaco, R. W. (1986). Anger as a clinical and social problem. In R. J. Blanchard & D. C. Blanchard (Eds.), *Advances in the study of aggression* (Vol. 2, pp. 1-68). New York: Academic Press.
- Nuttin, M. J., Jr. (1985). Narcissism beyond Gestalt and awareness: The name letter effect. *European Journal of Social Psychology*, 15, 353-361.
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (2<sup>nd</sup> ed.). Thousand Oaks: Sage Publications.
- Robins, R. W., Hendin, H. M., & Trzesniewski, K. H. (2001). Measuring global self-esteem: Construct validation of a single-item measure and the Rosenberg Self-Esteem Scale. *Personality and Social Psychology Bulletin*, 27, 151-161.
- Rogers, C. R. (1961). *On becoming a person*. Boston: Houghton Mifflin.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Rosenthal, R., & Jacobson, L. (1968). *Pygmalion in the classroom*. New York: Holt, Rinehart & Winston.

- Rusbult, C. E., Kumashiro, M., Stocker, S. L., & Wolf, S. T. (2005). The Michelangelo phenomenon in close relationships. In A. Tesser, J. Wood, & D. A. Stapel (Eds.), *On building, defending, and regulating the self: A psychological perspective* (pp. 1-29). New York: Psychology Press.
- Scheier, M. F., & Carver, C. S. (1988). A model of behavioral self-regulation: Translating intention into action. *Advances in Experimental Social Psychology*, 21, 303-346.
- Schneider, D. J., & Turkat, D. (1975). Self-presentation following success or failure: Defensive self-esteem models. *Journal of Personality*, 43, 127-135.
- Snyder, C. R., Smith, T. W., Augelli, R. W., & Ingram, R. E. (1985). On the self-serving function of social anxiety: Shyness as a self-handicapping strategy. *Journal of Personality and Social Psychology*, 48, 970-980.
- Snyder, M., Tanke, E., & Berscheid, E. (1977). Social perception and interpersonal behavior: On the self-fulfilling nature of social stereotypes. *Journal of Personality and Social Psychology*, 35, 656-666.
- Spalding, L. R., & Hardin, C. D. (1999). Unconscious unease and self-handicapping: Behavior consequences of individual differences in implicit and explicit self-esteem. *Psychological Science*, 10, 535-539.
- Stephen, W. G., & Gollwitzer, P. M. (1981). Affect as a mediator of attributional egoism. *Journal of Experimental Social Psychology*, 17, 443-458.
- Swann, W. B., Jr., Chang-Schneider, C., & McClarty, K. L. (2007). Do people's self-views matter? Self-concept and self-esteem in everyday life. *American Psychologist*, 62, 84-94.
- Swann, W. B., Jr., De La Ronde, C., & Hixon, J. G. (1994). Authenticity and positivity strivings in marriage and courtship. *Journal of Personality and Social Psychology*, 66, 857-869.

- Tice, D. M. (1991). Esteem protection or enhancement? Self-handicapping motives and attributions differ by trait self-esteem. *Journal of Personality and Social Psychology*, 60, 711-725.
- Waschull, S. B., & Kernis, M. H. (1996). Level and stability of self-esteem as predictors of children's motivation and reasons for anger. *Personality and Social Psychology Bulletin*, 22, 4-13.
- Wills, T. A. (1981). Downward comparison principles in social psychology. *Psychological Bulletin*, 90, 245-271.

## Footnotes

<sup>1</sup> For ease of explanation when discussing the Michelangelo phenomenon I will focus on one partner (“the partner”) affirming the other (“the self”). In practice, the Michelangelo phenomenon is an interdependence process in which both partners simultaneously sculpt one another.

<sup>2</sup> In the present research, I focus on the ideal self and do not examine the ought self, consistent with previous research on the Michelangelo phenomenon. The ought self is not related to self-esteem (Moretti & Higgins, 1990), which is the primary outcome of interest in these studies.

<sup>3</sup> Some researchers have examined contingent self-esteem from the perspective of individual differences in the domains in which people draw their self-esteem (see Crocker & Wolfe, 2001). For example, a student whose self-esteem was contingent on musical ability would suffer a loss of self-esteem as a result of a bad musical performance, but not from getting a bad grade on a chemistry exam. Consistent with Deci & Ryan’s (1995) conception of contingent self-esteem, in this work I am focusing on whether contingencies are operative rather than the specific content of self-esteem contingencies.

<sup>4</sup> In the present study, and in the three subsequent studies, participant sex never moderated any of the key associations, so all analyses collapse across this variable.

<sup>5</sup> Fourteen participants (40%) expressed some sort of suspicion. The responses of suspicious participants were virtually identical to those of participants who were not suspicious, so suspicious participants were included in the final sample.

<sup>6</sup> When replicating the mediation analyses from the preceding paragraph using the continuous, self-report measure of behavioral affirmation rather than the experimental measure, affirmation is not associated with self-esteem, so I did not explore mediation for this self-report measure.

<sup>7</sup> Six participants (11%) expressed some sort of suspicion. The responses of suspicious participants were virtually identical to those of participants who were not suspicious, so suspicious participants were included in the final sample.

<sup>8</sup> Four participants (7%) expressed some sort of suspicion. The responses of suspicious participants were virtually identical to those of participants who were not suspicious, so suspicious participants were included in the final sample.

Table 1

*Affirmation × Session Interaction on the Manipulation Check in Study 3*

	Session			
	Background		Post-test	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Non-discrepant ideal trait	6.00	0.00	5.44	1.10
Discrepant ideal trait	3.72	0.89	5.00	1.37
Irrelevant trait	2.47	1.07	3.74	1.33

Table 2

*Study 3: Influence of Affirmation*

	Non-discrepant ideal trait n = 18		Discrepant ideal trait n = 19		Irrelevant trait n = 19	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Growth toward one's ideal	66.56	20.67	74.63	14.23	73.26	11.73
Authenticity	4.65	0.72	4.75	0.79	4.99	0.54
Explicit self-esteem	5.03	0.65	4.69	0.90	4.83	0.75
Implicit self-esteem	0.40	1.66	0.33	1.28	0.76	1.23
Anger	4.19	0.85	4.41	0.75	4.44	0.55



Table 3

*Study 4: Influence of Affirmation*

	Ideal trait condition n = 34		Irrelevant trait condition n = 32	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Growth toward one's ideal self	62.94	16.40	64.09	17.00
Explicit self-esteem	64.29	20.26	65.06	18.87
Contingent self-esteem	4.91	0.64	4.73	0.64
Self-serving inference	3.83	0.70	3.71	0.68

### Figure Caption

*Figure 1.* The Michelangelo phenomenon model

*Figure 2.* Study 1: Examining whether growth toward one's ideal mediates the relationship between partner affirmation and self-esteem. The values in the figure represent standardized regression coefficients from the longitudinal analyses. The regression coefficient in parentheses represents the association between partner affirmation and self-esteem when growth toward one's ideal is not included in the model.

*Figure 3.* Affirmation  $\times$  Time Interaction on Growth Toward One's Ideal in Study 2

*Figure 4.* Affirmation  $\times$  Time Interaction on Self-Esteem in Study 2

*Figure 5.* Study 2: Examining whether growth toward one's ideal mediates the relationship between partner affirmation with later self-esteem, controlling for earlier self-esteem. The values in the figure represent standardized regression coefficients. The regression coefficient in parentheses represents the association between partner affirmation with later self-esteem when growth toward one's ideal is not included in the model.

*Figure 6.* Affirmation  $\times$  Session Interaction on the Manipulation Check in Study 3

*Figure 7.* Study 3: Examining whether growth toward one's ideal mediates the relationship between global partner affirmation and self-esteem. The values in the figure represent standardized regression coefficients. The regression coefficient in parentheses represents the association between global partner affirmation and self-esteem when growth toward one's ideal is not included in the model.

*Figure 8.* Study 4: Examining whether growth toward one's ideal mediates the relationship between partner affirmation and self-esteem. The values in the figure represent standardized regression coefficients. The regression coefficient in parentheses represents the association

between partner affirmation and self-esteem when growth toward one's ideal is not included in the model.

*Figure 9. Affirmation  $\times$  Offender's Name Interaction on Severity of Punishment in Study 4*

Figure 1.

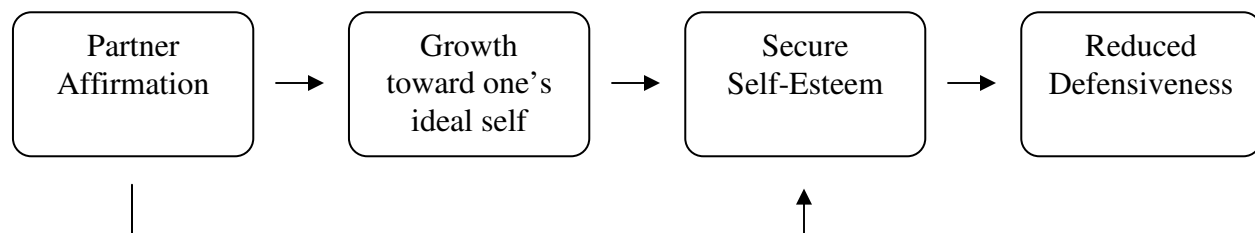


Figure 2.

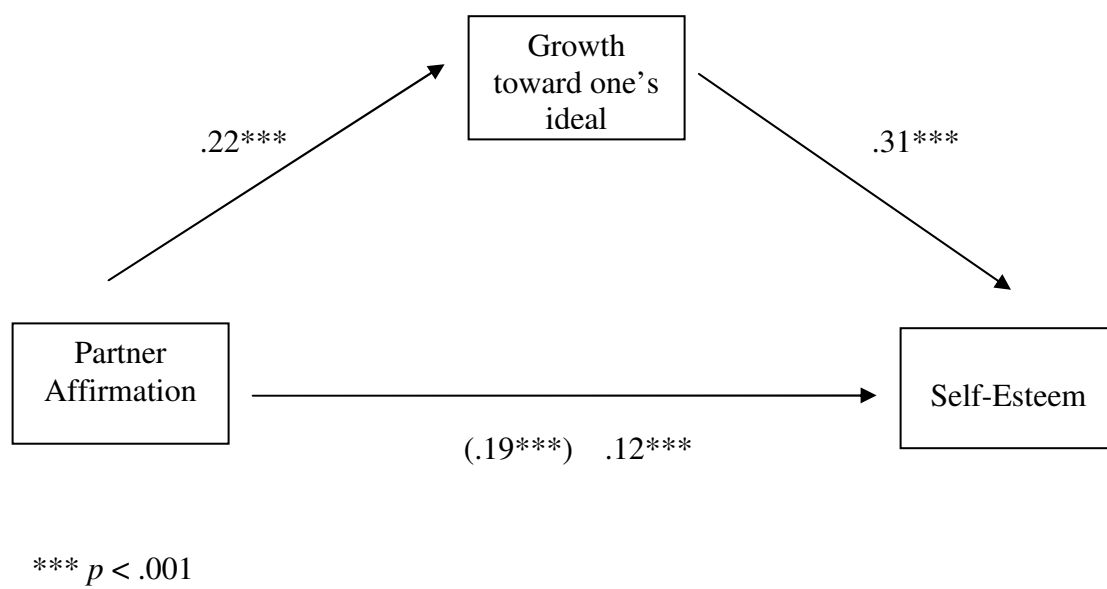


Figure 3.

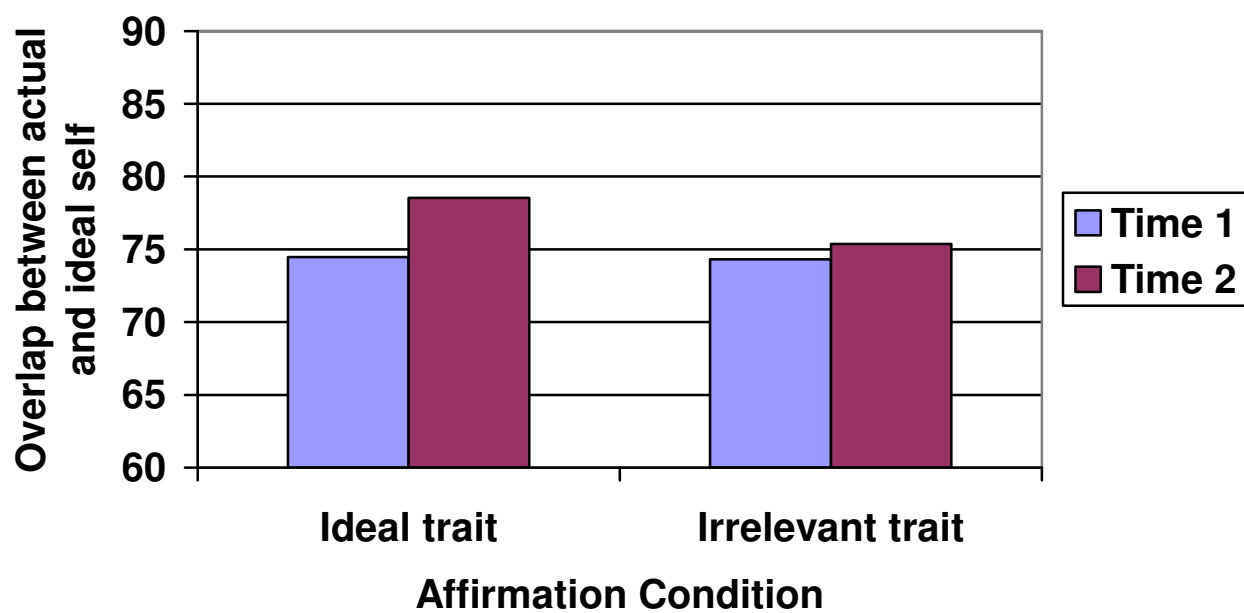


Figure 4.

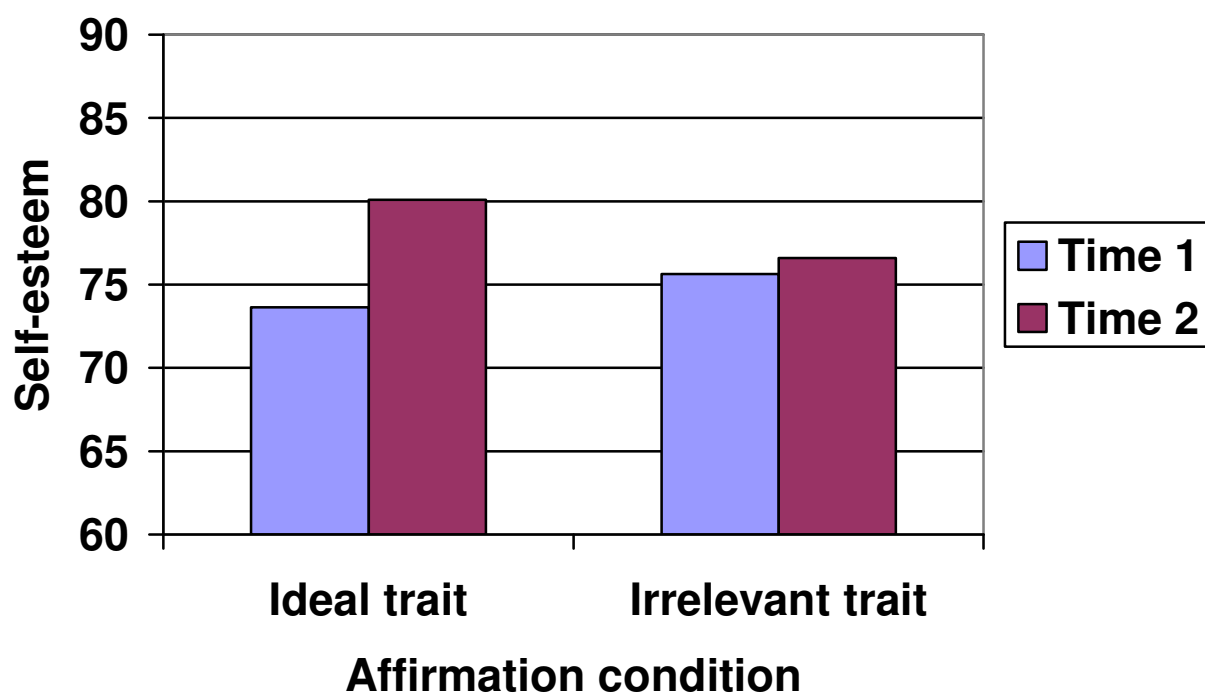
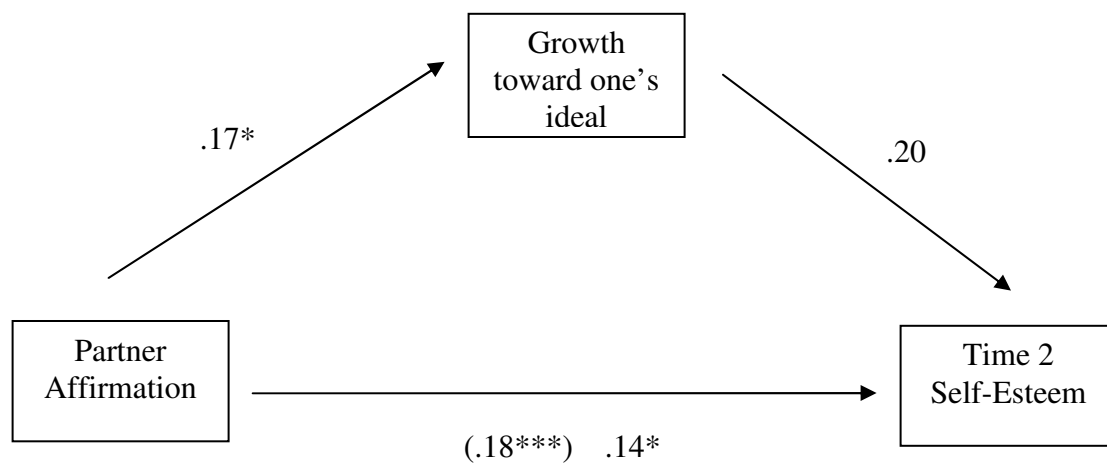


Figure 5.



\*  $p < .05$  \*\*\*  $p < .001$



Figure 6.

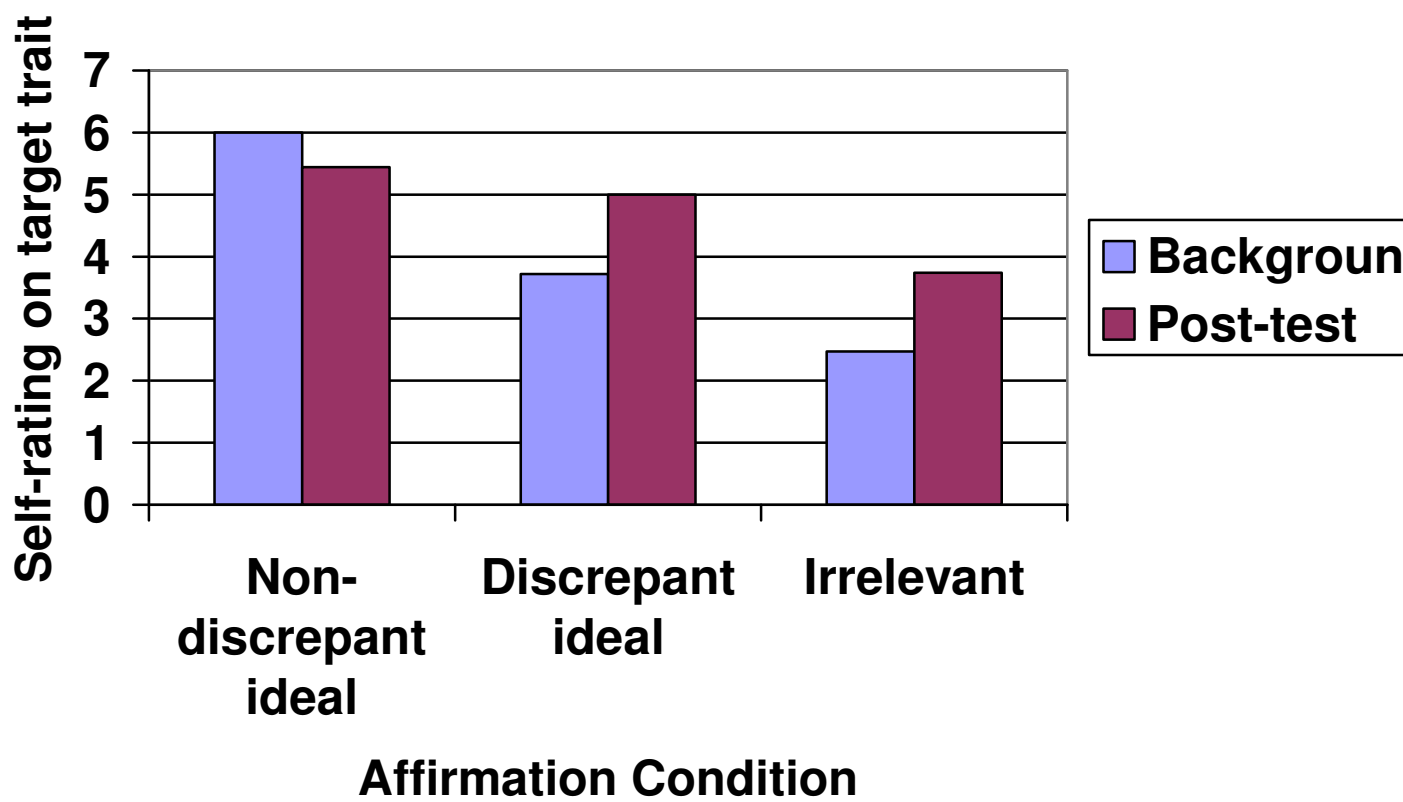
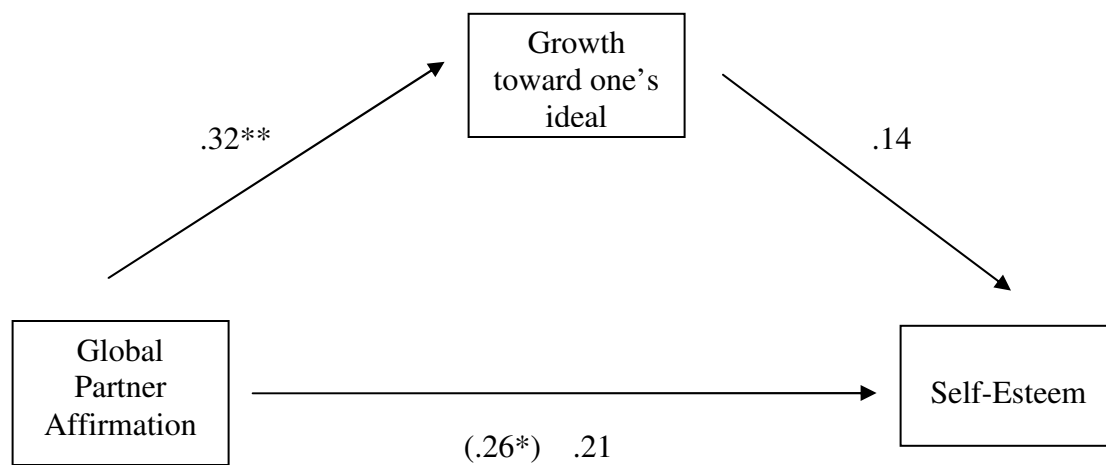
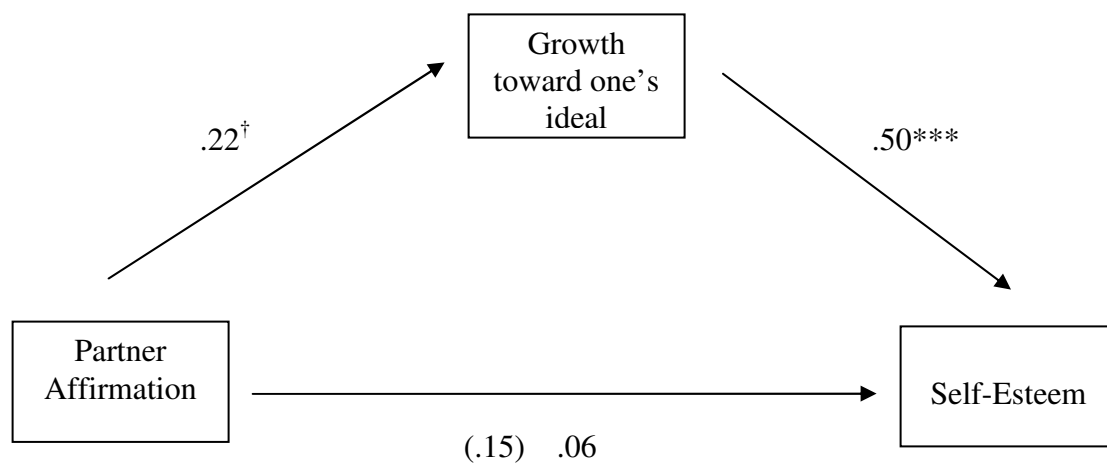


Figure 7.



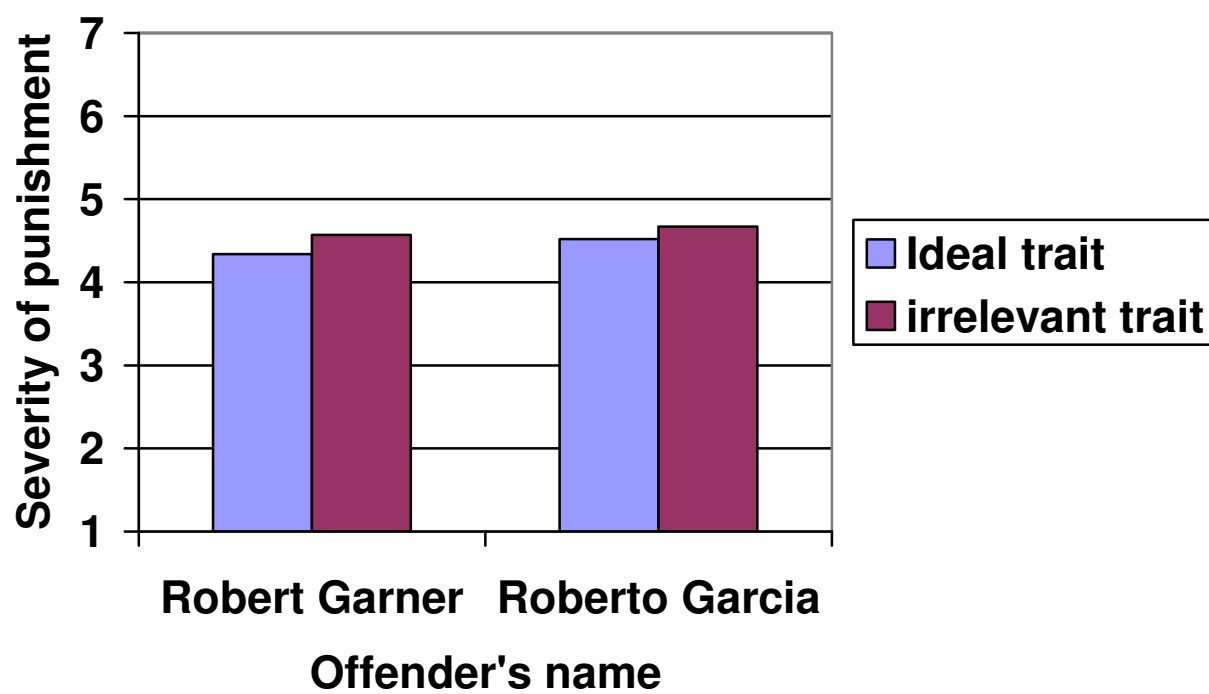
\*  $p < .05$  \*\*  $p < .01$

Figure 8.



$^{\dagger} p < .10$   $^{***} p < .001$

Figure 9.



## Appendix A

## Study 1: Background Session Questionnaire

**Intelligent** (e.g. logical, clever, knowledgeable)  
**Creative** (e.g. imaginative, inventive, artistic)  
**Considerate** (e.g. thoughtful, attentive, compassionate)  
**Athletic** (e.g. physically active, in good shape)  
**Fashionable** (e.g. aware of latest trends, dresses well)  
**Wealthy** (e.g. well-off, nice material possessions)  
**Cultured** (e.g. reads widely, diverse interests)  
**Kind** (e.g. nurturing, warm, considerate, generous)  
**Responsible** (e.g. dependable, meets obligations)

**Attractive** (e.g. good-looking, well-dressed)  
**Independent** (e.g. self-sufficient, thinks/behaves freely, self-reliant)  
**Funny** (e.g. comical, makes others laugh)  
**Politically-active** (e.g. knowledgeable and/or active in the political realm)  
**Unconventional** (e.g. original, unique, uncommon)  
**Thrill-seeking** (e.g. adventurous, likes doing dangerous things)  
**Friendly** (e.g. nice, pleasant)

**1. From the above list of traits, select the two traits that best describes the person you would ideally like to become and record each trait in the boxes below.**

Box A:

Box B:

**B. From the above list of bolded traits, select the trait that is the least relevant to both who you are now and the person you would ideally like to become and record your answer in Box B below.**

Box C:

Box D:

**Please copy the trait you wrote in Box A here \_\_\_\_\_. Answer the following questions about this trait using the following scale.**

1	2	3	4	5	6	7
not at all			moderately			extremely

- \_\_\_\_\_ 1. To what extent does this trait describe you right now?
- \_\_\_\_\_ 2. Regardless of how much you possess this trait, how central is this trait to how you think about yourself?
- \_\_\_\_\_ 3. Think about the characteristics of the person you would ideally like to become. How central is this trait to the person you would like to become?
- \_\_\_\_\_ 4. To what extent do you think the amount you possess this trait will be able to change in the future?
- \_\_\_\_\_ 5. How positively do you think people in general view this trait?

**Please copy the trait you wrote in Box B here \_\_\_\_\_. Answer the following questions about this trait using the following scale.**

1 2 3 4 5 6 7  
not at all moderately extremely

1. To what extent does this trait describe you right now?



## Appendix B

## Study 2: Pre-test Questionnaire

A. **Right now**, at the present moment, how much overlap is there between the person you actually are (your actual self; the traits you currently possess) and the person you would ideally like to be (your ideal self)? Indicate the amount of overlap using a 1 to 100 scale where 1 indicates no overlap between your actual and ideal self and 100 indicates complete overlap, your ideal and actual self are the same self are the same.

Amount of overlap (0 to 100): \_\_\_\_\_

B. Read each item and then mark the appropriate answer in the space next to that word. Indicate the extent to which each of these adjectives applies to you **right now**, at the present moment. Use the following scale to record your answers.

1	2	3	4	5	6	7
Not at all			Moderately			Extremely
_____ Effective		_____ Assertive			_____ Competent	
_____ Ruthless		_____ Overexcitable			_____ Impractical	
_____ TARGET		_____ Shy			_____ Relaxed	
_____ Stable		_____ Self-assured			_____ Adaptable	
_____ Energetic		_____ 2 <sup>nd</sup> COND TRAIT			_____ Bashful	
_____ High-strung		_____ Quiet			_____ Solemn	
_____ Extroverted		_____ Persevering			_____ Self-conscious	
_____ NON-COND TRAIT		_____ Capable			_____ Bold	
_____ Disorganized		_____ Self-Confident			_____ NON-COND TRAIT	
_____ Neat		_____ Talkative			_____ Withdrawn	

C. To what extent do you feel like you have high self-esteem **right now**? Indicate the level of your self esteem at the present moment on a 1 to 100 scale where 1 indicates extremely low self-esteem and 100 indicates the highest possible level of self-esteem.

Level of self-esteem (1-100): \_\_\_\_\_.

D. This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way **right now**, that is, at the present moment. Use the following scale to record your answers.

1	2	3	4	5	6	7
very slightly or not at all			moderately			extremely
_____ interested			_____ irritable			
_____ distressed			_____ alert			
_____ excited			_____ ashamed			
_____ upset			_____ inspired			
_____ strong			_____ nervous			
_____ guilty			_____ determined			
_____ scared			_____ attentive			
_____ hostile			_____ jittery			
_____ enthusiastic			_____ active			
_____ proud			_____ afraid			

*Please notify the experimenter when you are done.*



## Appendix C

### Study 2: Confederate Training Manual

#### Guidelines for the Experimental Session and Interaction

1. You are playing the role of a naïve participant. You do not know the experimenter. Do not discuss anything to do with the lab or with the experiment with the experimenter while you are in the lab running the experiment.
2. Before the participant has arrived you can hang out in 114A or 117. Make sure you are not visible from the main lab door. Once the participant has arrived, go around to the main lab door as if you were arriving for the experiment. If it is cold outside, come in wearing a jacket. If it is raining outside don't come in with a dry coat and umbrella.
3. The experimenter will explain the study and you will sign the informed consent form with the participant. Embedded in the consent form will be the trait that you will affirm during the session. If for any reason you forget the trait ask the experimenter if you can go to the bathroom.
4. Try to keep your interactions with participants as standardized as possible. The more you behave toward every participant similarly the better experimental control we will have.

#### In the interaction...

1. You will be behaving toward the participant as if they possess a positive trait. This trait may be part of their ideal self or may be irrelevant to their self-concept. Participants will all possess the target trait to some extent. You are trying to draw the behavior out of them by how you treat and interact with them.
2. Try not to affirm traits or give compliments that are not related to the target trait.
3. If the participant mentions anything about the PSYC 110 class or your year tell them that you are a sophomore who didn't finish the experiment requirement when you took 110 so have to finish it now. Do not say that you are a psychology major. Do not volunteer any of this information unless you are asked.
4. Do not say the actual trait during the interaction. Feel free to use synonyms.

#### After the interaction

1. The experimenter will direct you and the participant into different cubicles. There will be a short questionnaire for you to fill out. After that you are welcome to do whatever you would like on the computer. The participant will be able to hear noises of typing etc. from your cubicle so avoid doing things on the computer that make it clear that you aren't completing the questionnaire. For example, typing long e-mails will tip off the participant that you are doing something different than they are.
2. When the participant is being debriefed the experimenter will reveal that you are a confederate. Generally participants respond well if you apologize for deceiving them and say that you enjoyed interacting with them.
3. When you are finished running an experiment and have another one scheduled, make sure that you stay out of sight of the main lab door for the 15 minutes in between sections.

### **Trait Definitions**

**Creative**

Definition: Possessing originality and expressiveness

Synonyms: imaginative, inventive, artistic, innovative

**Athletic**

Definition: Physically strong and well-developed; muscular:

Synonyms: physically active, in good shape, healthy

**Fashionable**

Definition: conforming to the custom, style, or fashion

Synonyms: stylish, trendy, chic

**Wealthy**

Definition: having an abundance of valuable material possessions or resources

Synonym: well-off, nice material possessions

**Cultured**

Definition: A high degree of taste and refinement formed by aesthetic and intellectual training.

Synonyms: reads widely, diverse interests, travels extensively

**Attractive**

Definition: pleasing to the eye

Synonym: good-looking, well-groomed, well-dressed

**Funny**

Definition: affording light mirth and laughter

Synonym: comical, makes others laugh, humorous, merry

**Unconventional**

Definition: not bound by or in accordance with convention; being out of the ordinary

Synonyms: original, unique, atypical, nonconformist, unusual

**Independent**

Definition: not requiring or relying on others; not subject to control by others

Synonym: self-sufficient, thinks/behaves freely, self-reliant, unconstrained by others

**Politically-active**

Definition: knowledgeable of and/or involved in political activities

Synonyms: politically savvy

**Thrill-seeking**

Definition: a preference to engage in excitatory and dangerous pursuits.

Synonym: adventurous, likes doing dangerous or risky things, daring

**Responsible**

Definition: able to answer for one's conduct and obligations

Synonyms: dependable, meets duties and obligations

**Kind**

Definition: of a sympathetic or helpful nature

Synonyms: nurturing, warm, considerate, generous

**Intelligent**

Definition: possessing the ability to learn or understand; mental acuity

Synonyms: logical, clever, knowledgeable

### **General Tips on Affirming Traits**

1. Observe. Try to get as much information as you can from the participant's appearance, mannerisms, how they talk etc. You can then use that information to help draw out the traits.

2. Use a lot of open-ended questions when finding out more about the participant. Avoid the use of close-ended questions. For example, if you are affirming the trait politically-active and ask them "Are you interested in politics?" and the participant says no, you will not have much to work with for the rest of the session.

3. Social comparison is your best friend and your worst enemy.

A. One great strategy to use is to compare the participant to yourself and say how they possess more of the particular manifestation of that trait than you. This generally works well, but there are some downsides. People will sometimes protest that it isn't true and because of social modesty norms try to downplay how much they possess that trait. This doesn't necessarily mean that the affirmation is not working but it could in some cases backfire.

B. Avoid seeming like you really possess the trait unless you can make it clear that the participant possesses the trait as well. In social interactions, people engage in social comparisons with their interaction partners. If the participant perceives that you possess a trait more than they do, that will tend to make them feel as if they don't possess the trait very much. The exception to this is if you can make an in-group that is making a downward comparison to an out-group. You can do this by forging a bond between the two of you or drawing on more general group identities. So for example, saying that Northwestern students are so much more athletic than University of Chicago students.

4. Mold yourself into whatever character best helps you affirm the trait. Try to avoid creating elaborate cover stories, but draw out the parts of yourself that would best affirm the trait.

5. The smallest actions or examples can make people feel as if they possess a certain trait. To be athletic you don't have to run a marathon or participate in sports. Maybe the participant just worked out once or twice in their life (or just thought about it). Even those little things give you something to work with; you just need to frame it properly. Everything is relative. You can influence what the participant is judging it to be relative to.

6. Persist!!!! Even if it seems like it isn't working, try a different strategy. Avoid pushing a single tactic too much because the participant will start to disregard what you saying. But, even if it seems like it isn't working, keep trying.

## Method of Affirmation

### Creative

1. In the art interpretation task, comment on how the participant is creative (i.e. “Wow, you have a lot of really interesting ideas”)
2. Discuss creative pursuits the participant engages in (i.e. painting, music, etc.)
3. Act shocked at what the person says due to its originality
4. Mention how you would never think of the picture in that way even though you think that the participant’s analysis is very valid (“I never would have thought to look at it that way, but it makes perfect sense. That’s a really cool way of thinking about it.”)

### Athletic

1. Discuss working out, being physically active
2. Ask the participant about sports he or she likes to play
3. “Do you work out? You look like you are in good shape.”
4. I would say that I would not want to be in a dark alley at night with the participant. (Not sure how to segue into that)
5. “I’m so glad the weather’s been nicer lately. I’ve been trying to get to the gym more and the nice weather definitely helps. I feel like I may have seen you at SPAC before, but I see so many people there I could be wrong.”
6. “I was hoping to play a game of Ultimate out on the field later, but last time we lost the Frisbee and OSCO’s out. Do you know where the nearest Sports Authority or something like that is, by any chance?”
7. Ask if they play varsity, club, or intramural sports.
8. “Did you play sports in high school? You look like a \_\_\_\_\_ player?”

### Fashionable

1. Comment on how the participant is dressed/ hair style
2. Discuss fashion & how the person is knowledgeable
3. Ask the participant about a particular trend and comment on how they are knowledgeable or how a fashion critic shares his or her perception of the trend
4. “Usually I don’t give into fashion trends, but I finally broke down and bought a pair of the new Pumas that are out over winter break. They’re so great...they feel like slippers.”
6. “You have a good eye.”
7. “Where do you shop? Your clothes are really cool.”

### Cultured

1. Discuss books the person has read/ places they have traveled/ opera/ ballet (“I love looking at art. I wish I could go to all the famous museums in the world. I’ve been to the National Gallery in London once, but that’s it. What about you? Do you travel much?”; “I just finished re-reading The Sun Also Rises. It’s my favorite; I just love Hemingway. Do you have a favorite author or book?”)
2. In the art interpretation task, ask them if they like art/know anything about it
3. Ask about what type of music the participant likes and respond as if that indicates he or she is cultured
4. Say how I am not well read or that I have not been outside of the Midwest.
5. In the art interpretation task comment on how he or she seems to know a lot about art.

### Wealthy

1. Discuss how the participant’s clothes, possession etc. are high quality/designer
2. Discuss financial prospects of future jobs (i.e. “you can make a lot of money in business”)
3. Ask them about the coolest thing he or she has bought/owns and comment on how it is expensive
4. Say I wish we got paid for the experiment because I could use the money
5. Comment on some expensive possession that the participant might have on them
6. “I was walking along Sheridan today and saw one of the new 5 series drive by. Ugh, they’re so hot! Are you into cars much?”

7. "I'm excited because my parents are coming in next weekend, but I'm trying to figure out a nice place downtown we can take my mom for her birthday. Do you know nice, fancy restaurants downtown?"
8. Ask where the person is from, and then talk about how you have heard that city is a wealthy neighborhood/suburb.

### **Attractive**

1. Compliment on appearance
2. Flirt
3. "You don't have to worry about this, but I read that people who have average looks..."
4. "Well aren't I the lucky one; I get to run experiments with a cutie!"
5. "I like getting dressed up for class more now that the weather is nice. Sometimes, though, I'm just too lazy and would rather have the extra 15 minutes of sleep. You look nice though, but guys can pull it together a little faster."

### **Funny**

1. Laugh at his or her jokes
2. Create jovial environment
3. I would comment on how he or she seems like a humorous person
4. "Do you watch the Chapelle show? How hilarious is that?"
5. Identify silly shapes in the art interpretation task.
6. Have you heard any good jokes lately?

### **Unconventional**

1. In a positive way, discuss how interests are different from others
2. "You don't often meet people who..."
3. Comment on an unusual piece of jewelry or clothing he or she is wearing
4. I would comment on how the person's interpretation of the artwork is very unusual.
5. Comment on how they have a different look
6. "I'm so hungry. I was laughing so hard at lunch today I couldn't even eat. My friends were making fun of me because I made this huge salad and then ate each separate ingredient out one by one. It's like how I eat my Oreos weird. Do you have anything like that?"
7. "That is an interesting way to look at it."
8. Discuss how the type or combination of activities the person engages in is unusual.

### **Independent**

1. In the art interpretation task, mention independent themes in their answers
2. Discuss activities the participant likes to do by him or herself
3. "It's so funny; I have a group project for one of my classes and I used to love them in high school but now I hate them. I feel like I always end up doing most of the work. I really prefer individual projects now, I think. Know what I mean?"
4. "I'm really looking forward to going home over the summer, but every time I'm there I miss being at school. I just love how I can do my own thing here, you know? Are you going home for the summer?"
5. Ask how often they talk to their parents.

### **Politically-active**

1. Discuss how the person is knowledgeable about political issues
2. Discuss how the person is engaged in political activities (organizations, voting, etc.)
3. Affirm his or her political stance
4. I would have the picture we analyze be politically resonant and then comment on the person's political knowledge
5. "I had a current events quiz in one of my classes today and I hope I did okay. Do you keep up with current events much?"

**Thrill-seeking**

1. Discuss adventurous activities the participant has engaged in/ would like to do
2. Ask if he or she likes horror movies or roller coasters and discuss those topics if he or she likes those types of activities (“I’ve been trying to think of something fun I can do with my friends now that the weather’s getting warmer. We’re thinking about going to Six Flags Great America. Have you ever been there?”)
3. I would analyze the picture in a somewhat reserved manner in the hopes of emphasizing the participant’s thrill-seeking nature. Perhaps I would comment on the disparity between my reserved manner versus his thrill seeking manner.
4. “The funniest thing happened to me yesterday, my friend called me from UCSB and told me she had just gone skydiving! I couldn’t believe it! I’ve always thought about it but never really considered it. Would you want to do that?”
5. Strike up a conversation about Roller Coasters, talk about how you are too scared to go on them.

**Responsible**

1. Mention how the participant was on time for the study (“I’m so glad you were on time. It’s so annoying when you have to wait even longer to start one of these things because somebody’s late.”)
2. Discuss how you have a paper that is late and ask if they generally turn in their papers late
3. In the art interpretation task, mention how from his or her responses he or she seems like a responsible person
4. I would comment on how it was a good reflection on my fellow participant that he or she showed up as at the last experiment I had a fellow participant did not show up and we had to reschedule
5. (in reference to the Intro Psych experiments) “So how many of these things do you have left? There sure are a lot of them. So many people leave them to the very last minute. You seem like you’d be pretty on top of things though.”
6. On the art interpretation task chat and don’t work on the task until the participant mentions doing the task.
7. Discuss irresponsible roommates.

**Kind**

1. Compliment and thank kind behaviors they engage in (picking something up that was dropped, being polite, etc.)
2. Elicit sympathy from the person
3. Request his or her help with something
4. “I hope I look okay. I have a meeting after this. Do you think I look alright? Oh thanks, that’s really sweet of you to say.”
5. Thank them for giving you positive feedback or agreeing with you on something and say that your significant other would make fun of you/not understand.
6. “I’m thinking about participating in Project Pumpkin (or other volunteer activity/group), do you know anything about it? Do you do any volunteer work?”
7. “Do you know anything about ASB?”

**Intelligent**

1. Ask the participant’s opinion on relevant topics
2. Comment about how the participant made a good point (“That’s a good point. I hadn’t thought about that before.”)
3. Ask the participant about academic accomplishments
4. Comment on how knowledgeable the person seems
5. Comment on how the person seems to have a better understanding of the picture that we are analyzing
6. Since subject is in Intro Psych and confederate supposedly is too, the confederate (feigning confusion) could ask a very basic psych question and, upon receiving an answer, reply “Thanks so much; that makes a lot of sense now. I’ll have to find somebody like you to study with for the next midterm”

7. A response during the art analysis: “Well stated. Yeah, I totally agree. Have you taken any Art History classes?”

Reply: YES – “You can tell”

NO – “Really? You should; you’ve really got a knack for it”

8. I would mention how impressed I am with their analysis of the picture and how hearing he or she speak made apparent their immense understanding and knowledge.

9. Ask what major they are, then talk about how interesting and impressive that major is.

10. If they don’t have a major, ask if they are a science/math or English/history person and say that you are the opposite and talk about how impressive that is.



## Appendix D

## Study 2: Post-test Questionnaire

A. **Right now**, at the present moment, how much overlap is there between the person you actually are (your actual self; the traits you currently possess) and the person you would ideally like to be (your ideal self)? Indicate the amount of overlap using a 1 to 100 scale where 1 indicates no overlap between your actual and ideal self and 100 indicates complete overlap, your ideal and actual self are the same self are the same.

Amount of overlap (0 to 100): \_\_\_\_\_

B. Read each item and then mark the appropriate answer in the space next to that word. Indicate the extent to which each of these adjectives applies to you **right now**, at the present moment. Use the following scale to record your answers.

1	2	3	4	5	6	7
Not at all			Moderately			Extremely
_____ Effective		_____ Assertive		_____ Competent		
_____ Ruthless		_____ Overexcitable		_____ Impractical		
_____ TARGET		_____ Shy		_____ Relaxed		
_____ Stable		_____ Self-assured		_____ Adaptable		
_____ Energetic		_____ 2 <sup>nd</sup> COND TRAIT		_____ Bashful		
_____ High-strung		_____ Quiet		_____ Solemn		
_____ Extroverted		_____ Persevering		_____ Self-conscious		
_____ NON-COND TRAIT		_____ Capable		_____ Bold		
_____ Disorganized		_____ Self-Confident		_____ NON-COND TRAIT		
_____ Neat		_____ Talkative		_____ Withdrawn		

C. To what extent do you feel like you have high self-esteem **right now**? Indicate the level of your self esteem at the present moment on a 1 to 100 scale where 1 indicates extremely low self-esteem and 100 indicates the highest possible level of self-esteem.

Level of self-esteem (1-100): \_\_\_\_\_.

D. This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way **right now**, that is, at the present moment. Use the following scale to record your answers.

1	2	3	4	5	6	7
very slightly or not at all			moderately			extremely
_____ interested			_____ irritable			
_____ distressed			_____ alert			
_____ excited			_____ ashamed			
_____ upset			_____ inspired			
_____ strong			_____ nervous			
_____ guilty			_____ determined			
_____ scared			_____ attentive			
_____ hostile			_____ jittery			
_____ enthusiastic			_____ active			
_____ proud			_____ afraid			

E. We are interested in your perceptions of the interaction you just had. Please answer the following questions about the interaction and your perception of your interaction partner. **Your responses will NOT be seen by your interaction partner** so please answer honestly.

1. How much did you like your interaction partner?

1	2	3	4	5	6	7
strongly disliked			neither liked nor disliked			strongly liked

2. How enjoyable did you find your interaction with this person?

1	2	3	4	5	6	7
not at all			moderately			extremely

3. How much would you want this person as a friend?

1	2	3	4	5	6	7
not at all			moderately			extremely

4. How much would you want this person as a romantic partner?

1	2	3	4	5	6	7
not at all			moderately			extremely

5. How similar are you and your interaction partner?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
not at all			moderately			extremely

6. How much do you think your interaction partner liked you?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
strongly disliked			neither liked nor disliked			strongly liked

7. To what degree do you think your interaction partner was flirting with you?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
not at all			moderately			extremely

8. To what degree do you think that your interaction partner perceived you in a manner consistent with your ideal self?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
not at all			moderately			extremely

9. To what degree did your interaction partner behave toward you in a manner consistent with your ideal self?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
not at all			moderately			extremely

F. Demographic Information- Please provide us with the following information about yourself:

1. What is your sex (please check one)? ☐ Male ☐ Female
2. How old are you? \_\_\_\_\_
3. What is your race?  
☐ African American ☐ Asian American ☐ Caucasian  
☐ Hispanic ☐ Native American ☐ Other (specify: \_\_\_\_\_)
4. What is your year in school?  
☐ Freshman ☐ Sophomore ☐ Junior ☐ Senior
5. Are you **currently** involved in a romantic relationship? ☐ Yes ☐ No

*Please notify the experimenter when you are done.*

## Appendix E

### Study 3 & 4: Background Session Questionnaire

**Intelligent** (e.g. logical, clever, knowledgeable)

**Creative** (e.g. imaginative, inventive, artistic)

**Considerate** (e.g. thoughtful, attentive, compassionate)

**Athletic** (e.g. physically active, in good shape)

**Fashionable** (e.g. aware of latest trends, dresses well)

**Wealthy** (e.g. well-off, nice material possessions)

**Cultured** (e.g. reads widely, diverse interests)

**Kind** (e.g. nurturing, warm, considerate, generous)

**Responsible** (e.g. dependable, meets obligations)

**Attractive** (e.g. good-looking, well-dressed)

**Independent** (e.g. self-sufficient, thinks/behaves freely, self-reliant)

**Funny** (e.g. comical, makes others laugh)

**Politically-active** (e.g. knowledgeable and/or active in the political realm)

**Unconventional** (e.g. original, unique, uncommon)

**Thrill-seeking** (e.g. adventurous, likes doing dangerous things)

**Friendly** (e.g. nice, pleasant)

**1. From the above list of traits, select the two traits that best describes the person you would ideally like to become and record each trait in the boxes below.**

Box A:

Box B:

2. From the above list of bolded traits, select the trait that is the least relevant to both who you are now and the person you would ideally like to become and record your answer in Box B below.

Box C:

Box D:

**Please copy the trait you wrote in Box A here \_\_\_\_\_. Answer the following questions about this trait using the following scale.**

1	2	3	4	5	6	7
not at all			moderately			extremely

\_\_\_\_\_ 1. To what extent does this trait describe you right now?

2. Regardless of how much you possess this trait, how central is this trait to how you think about yourself?

\_\_\_\_\_ 3. Think about the characteristics of the person you would ideally like to become. How central is this trait to the person you would like to become

\_\_\_\_\_ 4. How positively do you think people in general view this trait?

**Please copy the trait you wrote in Box B here \_\_\_\_\_. Answer the following questions about this trait using the following scale.**

1	2	3	4	5	6	7
not at all			moderately			extremely

\_\_\_\_\_ 1. To what extent does this trait describe you right now?

2. Regardless of how much you possess this trait, how central is this trait to how you think about yourself?

\_\_\_\_\_ 3. Think about the characteristics of the person you would ideally like to become. How central is this trait to the person you would like to become?

\_\_\_\_\_ 4. How positively do you think people in general view this trait?



## Appendix F

## Study 3: Consent Form with Embedded Target Trait

**Northwestern University**  
**Department of Psychology**  
**CONSENT FORM**

**Project Title:** Social Interaction and Emotion

**Principal Investigator:** Dr. Eli Finkel

**Co-Investigators:** Abigail Mitchell

**Supported by:** Northwestern University

**Introduction/Purpose:** You are being asked to participate in a research study that examines the relationship between social interaction and emotion. You are being asked to participate because you are in the Psychology Department subject pool. The purpose of this research study is to examine how situations influence different types of emotions.

**Procedures:** Your participation in this study will last for 30 minutes and will involve only one visit. As a <target trait> in this study, you will be asked to come to a psychology laboratory and engage in a variety of cognitive tasks and complete some questionnaires. There are no correct or incorrect answers to any of these questions, so please be as honest as possible.

**Risks:** Your participation in this study does not involve any physical, psychological and/or social risks to you.

**Benefits:** There may be no direct benefit to you by your participation in this research study. The potential benefits to you from participation may include a better understanding of psychological research methods as well as psychological theory related to the issues addressed by this research. In addition you will receive one credit for your participation. Your participation in this study may aid in our understanding of how different situation influence people's emotions.

**Alternatives:** You have the alternative to choose not to participate in this research study. Refusal to participate will involve no penalty or loss of benefits. A written assignment may be substituted for research participation to receive experimental course credit.

**Confidentiality:** Participation in this research study may result in a loss of privacy, since persons other than the investigator(s) might view your study records. Unless required by law, only the study investigator, members of the investigator's staff, and the Northwestern University Institutional Review Board will have authority to review your study records. They are required to maintain confidentiality regarding your identity. Results of this study may be used for research, publications, or presentations at scientific meetings. If your individual results are discussed, your identity will be protected by using a study code number rather than your name or other identifying information.

**Financial Information:** You will not be charged for any study-related procedures. You will not be paid for your participation in this study.

**Subject's Rights:** Your participation in this study is voluntary and you are free to withdraw at any time. Choosing not to participate or withdrawing from this study will not affect your class standing in Psychology 110 and you will still receive experimental credit.

**Contact Persons:** Any questions you may have about this study may be directed to Eli Finkel at telephone number (847) 467-3212 or Abigail Mitchell at telephone number (847) 467-4258. Questions about your rights as a research subject may be directed to the Office for the Protection of Research Subjects of NU at telephone number (312) 503-9338.

**Consent:**

“I have read this form and the research study has been explained to me. I have been given the opportunity to ask questions and my questions have been answered to my satisfaction. If I have additional questions, I have been told who to contact. I agree to participate in this research study described above and will receive a copy of this consent form. I will receive a copy of this consent form after I sign it.”

---

Subject's Signature

---

Date

---

Signature of Person Obtaining Consent

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Date

---

Investigator's Signature

---

Date



## Appendix G

## Study 3: Participant's Questionnaire Packet

**A.** Read each item and then mark the appropriate answer in the space next to that word. Indicate the extent to which each of these adjectives applies to you **right now**, at the present moment. Use the following scale to record your answers.

	1	2	3	4	5	6	7
	Not at all			Moderately			Extremely
_____ Disorganized							_____ Talkative
_____ Ruthless							_____ Relaxed
_____ TARGET							_____ Bashful
_____ Energetic							_____ Solemn
_____ High-strung							_____ Self-conscious
_____ Extroverted							_____ Withdrawn

**B. Right now**, at the present moment, how much overlap is there between the person you Actually are (your actual self; the traits you currently possess) and the person you would ideally like to be (your ideal self)? Indicate the amount of overlap using a 1 to 100 scale where 1 indicates no overlap between your actual and ideal self and 100 indicates complete overlap, your ideal and actual self are the same self are the same.

Amount of overlap (1 to 100): \_\_\_\_\_

C. This is a questionnaire designed to measure what you are thinking at this moment. There is, of course, no right answer for any statement. The best answer is what you feel is true of yourself at this moment. Be sure to answer all of the items, even if you are not certain of the best answer. Again, answer these questions as they are true for you **RIGHT NOW**.

Rate your answer on a 1 to 100 scale where 1 indicates the statement is not at all true of you and 100 indicates that the statement is completely true of you right now. For example, a score of 54 would indicate that the statement was moderately true of you.

1 (not at all true of me)      →      →      →      →      100 (complete true of me)

- |  |   |
|--|---|
| _____ 1. For better or for worse, I am aware of who I truly am.                                  | _____ 16. I feel frustrated or rattled about my performance.                |
| _____ 2. I am aware of when I am not being my true self.   | _____ 17. I feel that I am having trouble understanding things that I read. |
| _____ 3. I am aware of my darkest thoughts and feelings.   | _____ 18. I feel that others respect and admire me.                         |
| _____ 4. I find it easy to pretend I don't have faults.  | _____ 19. I am dissatisfied with my weight.                                 |
| _____ 5. I prefer to ignore my darkest thoughts and feelings.                                    | _____ 20. I feel self-conscious.  |
| _____ 6. I generally am capable of objectively considering my limitations and shortcomings.      | _____ 21. I feel as smart as others.  |
| _____ 7. When I am nervous I smile a lot.  | _____ 22. I feel displeased with myself.                                    |
| _____ 8. I find it easy to pretend to be something other than my true self.                      | _____ 23. I feel good about myself.   |
| _____ 9. I rarely if ever put on a false face for others to see.                                 | _____ 24. I am pleased with my appearance right now.                        |
| _____ 10. My openness and honesty in relationships are essential for their development.          | _____ 25. I am worried about what other people think of me.                 |
| _____ 11. Some people would be shocked and surprised if they discovered what I keep inside me.   | _____ 26. I feel confident that I understand things.                        |
| _____ 12. In general, I place a good deal of importance on people understanding who I really am. | _____ 27. I feel inferior to others at this moment.                         |
| _____ 13. I feel confident about my abilities.   | _____ 28. I feel unattractive.  |
| _____ 14. I am worried about whether I am regarded as a success or failure.                      | _____ 29. I feel concerned about the impression that I am making.           |
| _____ 15. I feel satisfied with the way my body looks right now.                                 | _____ 30. I feel that I have less scholastic ability right now than others. |
|  | _____ 31. I feel like I'm not doing well.                                   |
|  | _____ 32. I am worried about looking foolish.                               |

**D.** This study is concerned with people's aesthetic judgments of simple stimuli, that is, letters of the alphabet. You might not be accustomed to evaluating letters, but previous research has shown that the study of these kinds of judgments can lead to a better understanding of certain aspects of human emotions. Rely on your first, intuitive reactions toward the letters.

Rate your answer on a 1 to 100 scale where 1 indicates the letter is not at all beautiful and 100 indicates that the letter is extremely beautiful. For example, a score of 74 would indicate the letter was very beautiful.

1 (not at all beautiful)    →    →    →    →    →    →    100 (extremely beautiful)

\_\_\_\_\_ 1. Q

\_\_\_\_\_ 2. W

\_\_\_\_\_ 3. E

\_\_\_\_\_ 4. R

\_\_\_\_\_ 5. T

\_\_\_\_\_ 6. Y

\_\_\_\_\_ 7. U

\_\_\_\_\_ 8. I

\_\_\_\_\_ 9. O

\_\_\_\_\_ 10. P

\_\_\_\_\_ 11. A

\_\_\_\_\_ 12. S

\_\_\_\_\_ 13. D

\_\_\_\_\_ 14. F

\_\_\_\_\_ 15. G

\_\_\_\_\_ 16. H

\_\_\_\_\_ 17. J

\_\_\_\_\_ 18. K

\_\_\_\_\_ 19. L

\_\_\_\_\_ 20. Z

\_\_\_\_\_ 21. X

\_\_\_\_\_ 22. C

\_\_\_\_\_ 23. V

\_\_\_\_\_ 24. B

\_\_\_\_\_ 25. N

\_\_\_\_\_ 26. M

**E.** For each of the following items, please rate the degree to which the incident described by the item would anger or provoke you right now. Use the following scale and mark your response for each item on the line provided. Try to image the incident actually happening to you, and then indicate the extent to which it would have made you angry.

1	2	3	4	5	6	7
Not at all			Moderately			Extremely
_____ 1. Going for a haircut and getting more cut off than you wanted.						_____ 15. Hitting your finger with a hammer.
_____ 2. Being singled out for correction, when the actions of others go unnoticed.						_____ 16. You have made arrangements to go somewhere with a person who backs off at the last minute and leaves you hanging.
_____ 3. You are walking along, minding your own business, when someone comes rushing past, knocking you out of his way.						_____ 17. Watching someone berate another person to excess.
_____ 4. Being called a liar.						_____ 18. Being pushed or shoved by someone in an argument.
_____ 5. You are in the midst of a dispute, and the other person calls you a "stupid jerk"						_____ 19. Someone who pretends to be something that she is not.
_____ 6. Hearing that a person has been deprived of her constitutional rights.						_____ 20. Working hard on a project and getting a poor grade.
_____ 7. People who think that they are always right.						_____ 21. Someone makes a mistake and blames it on you.
_____ 8. You are waiting to be served at a restaurant. Fifteen minutes have gone by, and you still haven't even received a glass of water.						_____ 22. Being hounded by a salesperson from the moment that you walk into a store.
_____ 9. Struggling to carry four cups of coffee to your table at a cafeteria, someone bumps into you, spilling the coffee.						_____ 23. Being given an unnecessarily difficult exam when you need a good grade.
_____ 10. You are typing a term paper, hurrying to make the deadline, and the computer freezes.						_____ 24. Someone who tried to make you feel guilty.
_____ 11. Watching someone bully another person who is physically smaller than he is.						_____ 25. You are trying to concentrate, and a person near you is tapping his foot.
_____ 12. Professors who refuse to listen to your point of view.						_____ 26. When you are criticized in front of others for something that you have done.
_____ 13. Being stood-up for a date.						_____ 27. You lend someone an important book and she fails to return it.
_____ 14. You are talking to someone, and he doesn't answer you.						_____ 28. Getting cold soup or vegetables in a restaurant.
						_____ 29. Someone who is always trying to get "one-up" on you.
						_____ 30. Acts of economic exploitation whereby business men take advantage of need and demand an excessive profit.

- | 1  | 2 | 3 | 4          | 5 | 6 | 7   |
|--|---|---|------------|---|---|---|
| Not at all   |   |   | Moderately |   |   | Extremely   |
| _____ 31. People who constantly brag about themselves.   |   |   |            |   |   | _____ has paid zero income tax.   |
| _____ 32. Being joked about or teased.   |   |   |            |   |   | _____ 47. Getting hit in the back of the head with a snowball   |
| _____ 33. Banging your shins against a piece of furniture.   |   |   |            |   |   | _____ 48. Being told by an employer or professor that you have done poor work.  |
| _____ 34. Being on the receiving end of a practical joke.  |   |   |            |   |   | _____ 49. You are in a ball game, and one of your opponents is unnecessarily rough.   |
| _____ 35. You are in a discussion with someone who persists in arguing about a topic he knows very little about. |   |   |            |   |   | _____ 50. Being mocked by a small group of people as you pass them.   |
| _____ 36. Losing a game that you wanted to win.  |   |   |            |   |   | _____ 51. It's a cold morning and you have an 8 o'clock class. Begrudgingly, you get there on time, but the professor arrives 15 minutes late and announces that he is canceling the class. |
| _____ 37. Being told to "go to hell."  |   |   |            |   |   | _____ 52. You are in a theater ticket line, and someone cuts in front of you.   |
| _____ 38. Someone making fun of the clothes that you are wearing.  |   |   |            |   |   | _____ 53. In a hurry to get somewhere, you tear a good pair of slacks on a sharp object.  |
| _____ 39. Someone sticking their nose into an argument between you and someone else.                             |   |   |            |   |   | _____ 54. Being misled or deceived by a man holding political office.   |
| _____ 40. Being forced to participate in psychological experiments.  |   |   |            |   |   | _____ 55. You are out on a date with someone who subtly or indirectly conveys to you that you just don't measure up to his or her standards.  |
| _____ 41. Being told by an employer or professor that you have done poor work.                                   |   |   |            |   |   | _____ 56. You are at a shopping center, and two evangelistic people stop you and want to convert you to their religious ideas.  |
| _____ 42. Acts of prejudice against a minority or ethnic group.  |   |   |            |   |   | _____ 57. While washing your favorite cup, you drop it and it breaks.   |
| _____ 43. Someone spits at you.  |   |   |            |   |   | _____ 58. Getting punched in the mouth.   |
| _____ 44. Being talked about behind your back.   |   |   |            |   |   | _____ 59. Being falsely accused of cheating.  |
| _____ 45. Stepping on a gob of chewing gum.  |   |   |            |   |   | _____ 60.; People who are cruel to animals  |
| _____ 46. Hearing that a very wealthy man  |   |   |            |   |   |   |

**F.** Think back to the interaction you had with another participant at the beginning of the session. Please answer the following questions about the interaction and your perception of your interaction partner. **Your responses will NOT be seen by your interaction partner** so please answer honestly.

1. How much did you like your interaction partner?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
strongly disliked			neither liked nor disliked			strongly liked

2. How enjoyable did you find your interaction with this person?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
not at all			moderately			extremely

3. How much would you want this person as a friend?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
not at all			moderately			extremely

4. How much would you want this person as a romantic partner?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
not at all			moderately			extremely

5. How similar are you and your interaction partner?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
not at all			moderately			extremely

6. How much do you think your interaction partner liked you?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
strongly disliked			neither liked nor disliked			strongly liked

7. To what degree do you think your interaction partner was flirting with you?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
not at all			moderately			extremely

8. To what degree do you think that your interaction partner perceived you in a manner consistent with your ideal self?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
not at all			moderately			extremely

9. To what degree did your interaction partner behave toward you in a manner consistent with your ideal self?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
not at all			moderately			extremely

**G.** Demographic Information- Please provide us with the following information about yourself:

2. What is your sex (please check one)? \_\_\_\_\_ Male \_\_\_\_\_ Female

GT#\_\_\_\_\_

2. How old are you? \_\_\_\_\_

3. What is your race?

\_\_\_\_\_ African American

\_\_\_\_\_ Asian American

\_\_\_\_\_ Caucasian

\_\_\_\_\_ Hispanic

\_\_\_\_\_ Native American

\_\_\_\_\_ Other (specify: \_\_\_\_\_)

4. What is your year in school?

\_\_\_\_\_ Freshman

\_\_\_\_\_ Sophomore

\_\_\_\_\_ Junior

\_\_\_\_\_ Senior

5. Are you **currently** involved in a romantic relationship? \_\_\_\_\_ Yes \_\_\_\_\_ No

*Please notify the experimenter when you are done.*

## Appendix H

## Study 3: Confederate's Questionnaire Packet

**A.** Read each item and then mark the appropriate answer in the space next to that word. Indicate the extent to which you think your interaction partner possesses each of the following traits. Use the following scale to rate your response for each item on the blanks provided. Circle the trait that was the target trait

	1	2	3	4	5	6	7
	Not at all			Moderately			Extremely
_____ Athletic							_____ Kind
_____ Attractive							_____ Responsible
_____ Considerate							_____ Thrill-seeking
_____ Creative							_____ Unconventional
_____ Cultured							_____ Wealthy

**B. Right now,** at the present moment, how much overlap do you think there is between your interaction partner's actual self and ideal self? Indicate the amount of overlap using a 1 to 100 scale where 1 indicates no overlap between his or her actual and ideal self and 100 indicates complete overlap between his or her actual and ideal self.

Amount of overlap (1 to 100): \_\_\_\_\_



GT#\_\_\_\_\_

**C.** Provide a brief description of how you affirmed the target trait.

**D.** Did anything unusual or noteworthy happen in the interaction?

**E.** Answer the following questions from the perspective of your interaction partner. You may feel like you are guessing on several of the items. That is natural on a task like this. Use the following scale to rate your response for each item on the blanks provided

1	2	3	4	5	6	7
Not at all true of me			Moderately true of me			Completely true of me
_____ 1. I feel confident about my abilities.					_____ 18. I feel that I have less scholastic ability right now than others.	
_____ 2. I am worried about whether I am regarded as a success or failure.					_____ 19. I feel like I'm not doing well.	
_____ 3. I feel satisfied with the way my body looks right now.					_____ 20. I am worried about looking foolish.	
_____ 4. I feel frustrated or rattled about my performance.					_____ 21. For better or for worse, I am aware of who I truly am.	
_____ 5. I feel that I am having trouble understanding things that I read.					_____ 22. I am aware of when I am not being my true self.	
_____ 6. I feel that others respect and admire me.					_____ 23. I am aware of my darkest thoughts and feelings.	
_____ 7. I am dissatisfied with my weight.					_____ 24. I find it easy to pretend I don't have faults.	
_____ 8. I feel self-conscious.					_____ 25. I prefer to ignore my darkest thoughts and feelings.	
_____ 9. I feel as smart as others.					_____ 26. I generally am capable of objectively considering my limitations and shortcomings.	
_____ 10. I feel displeased with myself.					_____ 27. When I am nervous I smile a lot.	
_____ 11. I feel good about myself.					_____ 28. I find it easy to pretend to be something other than my true self.	
_____ 12. I am pleased with my appearance right now.					_____ 29. I rarely if ever put on a false face for others to see.	
_____ 13. I am worried about what other people think of me.					_____ 30. My openness and honesty in relationships are essential for their development.	
_____ 14. I feel confident that I understand things.					_____ 31. Some people would be shocked and surprised if they discovered what I keep inside me.	
_____ 15. I feel inferior to others at this moment.					_____ 32. In general, I place a good deal of importance on people understanding who I really am.	
_____ 16. I feel unattractive.						
_____ 17. I feel concerned about the impression that I am making.						

**E.** For each of the following items, please rate the extent to which you agree or disagree with each statement. Use the following scale and mark your response for each item on the line provided.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
strongly disagree						strongly agree

- \_\_\_\_\_ 1. I feel mentally exhausted right now.

\_\_\_\_\_ 2. I feel motivated right now.

\_\_\_\_\_ 3. I feel drained right now.

\_\_\_\_\_ 4. I feel energetic right now.

\_\_\_\_\_ 5. I feel worn out right now.

\_\_\_\_\_ 6. I am very stressed right now.

\_\_\_\_\_ 7. I am well-rested.

\_\_\_\_\_ 8. This trait was easy to affirm with this person.

\_\_\_\_\_ 9. I feel anxiety right now.

\_\_\_\_\_ 10. I feel frustrated right now.

\_\_\_\_\_ 11. I feel agitated right now.

\_\_\_\_\_ 12. I feel calm right now.

\_\_\_\_\_ 13. Answer the following questions with how angry you would be if they occurred to you with 1 = not angry and 7 = incredibly angry.

\_\_\_\_\_ 14. You are talking to someone, and he doesn't answer you.

\_\_\_\_\_ 15. Hitting your finger with a hammer.

\_\_\_\_\_ 16. You have made arrangements to go somewhere with a person who backs off at the last minute and leaves you hanging.

\_\_\_\_\_ 17. Watching someone berate another person to excess.

\_\_\_\_\_ 18. Being pushed or shoved by someone in an argument.

\_\_\_\_\_ 19. Someone who pretends to be something that she is not.

\_\_\_\_\_ 20. Working hard on a project and getting a poor grade.

\_\_\_\_\_ 21. Someone makes a mistake and blames it on you.

\_\_\_\_\_ 22. Being hounded by a salesperson from the moment that you walk into a store.

\_\_\_\_\_ 23. Being given an unnecessarily difficult exam when you need a good grade.

\_\_\_\_\_ 24. Someone who tried to make you feel guilty.

\_\_\_\_\_ 25. You are trying to concentrate, and a person near you is tapping his foot.

\_\_\_\_\_ 26. When you are criticized in front of others for something that you have done.

\_\_\_\_\_ 27. You lend someone an important book and she fails to return it.

\_\_\_\_\_ 28. Getting cold soup or vegetables in a restaurant.

\_\_\_\_\_ 29. Someone who is always trying to get "one-up" on you.

	1	2	3	4	5	6	7	
	Not at all			Moderately			Extremely	
	angry			angry			angry	
_____ 30. Acts of economic exploitation whereby business men take advantage of need and demand an excessive profit.								_____ 46. Hearing that a very wealthy man has paid zero income tax.
_____ 31. People who constantly brag about themselves.								_____ 47. Getting hit in the back of the head with a snowball
_____ 32. Being joked about or teased.								_____ 48. People asking personal questions of you just for their own curiosity.
_____ 33. Banging your shins against a piece of furniture.								_____ 49. You are in a ball game, and one of your opponents is unnecessarily rough.
_____ 34. Being on the receiving end of a practical joke.								_____ 50. Being mocked by a small group of people as you pass them.
_____ 35. You are in a discussion with someone who persists in arguing about a topic he knows very little about.								_____ 51. It's a cold morning and you have an 8 o'clock class. Begrudgingly, you get there on time, but the professor arrives 15 minutes late and announces that he is canceling the class.
_____ 36. Losing a game that you wanted to win.								_____ 52. You are in a theater ticket line, and someone cuts in front of you.
_____ 37. Being told to "go to hell."								_____ 53. In a hurry to get somewhere, you tear a good pair of slacks on a sharp object.
_____ 38. Someone making fun of the clothes that you are wearing.								_____ 54. Being misled or deceived by a man holding political office.
_____ 39. Someone sticking their nose into an argument between you and someone else.								_____ 55. You are out on a date with someone who subtly or indirectly conveys to you that you just don't measure up to his or her standards.
_____ 40. Being forced to participate in psychological experiments.								_____ 56. You are at a shopping center, and two evangelistic people stop you and want to convert you to their religious ideas.
_____ 41. Being told by an employer or professor that you have done poor work.								_____ 57. While washing your favorite cup, you drop it and it breaks.
_____ 42. Acts of prejudice against a minority or ethnic group.								_____ 58. Getting punched in the mouth.
_____ 43. Someone spits at you.								_____ 59. Being falsely accused of cheating.
_____ 44. Being talked about behind your back.								_____ 60. People who are cruel to animals
_____ 45. Stepping on a gob of chewing gum.								

**F.** Think back to the interaction you had with the other participant at the beginning of the session. Please answer the following questions about the interaction and about your perception of your interaction partner. **Your responses will NOT be seen by your interaction partner**, so please answer honestly.

1. How much did you like your interaction partner?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
strongly disliked		neither liked nor disliked			strongly liked	

2. How enjoyable did you find your interaction with this person?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
not at all		moderately			extremely	

3. How similar are you and your interaction partner?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
not at all		moderately			extremely	

4. How effect do you think the manipulation was for the participant?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
not at all		moderately			extremely	

5. How much do you think your interaction partner liked you?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
strongly disliked		neither liked nor disliked			strongly liked	

6. Was the trait part of the individual's ideal or irrelevant self? (Circle one) How sure are you?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
not at all		moderately			extremely	

7. What proportion of the time would you estimate your interaction partner talked about him or herself?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
not at all		about half			the entire time	

8. How difficult was it for you and your interaction partner to find things to talk about?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
not at all		moderately			extremely	

9. How smoothly did the interaction as a whole go?

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
not at all		moderately			extremely	