# Close Partner as Sculptor of the Ideal Self: Behavioral Affirmation and the Michelangelo Phenomenon

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This work incorporates concepts from the behavioral confirmation tradition, self tradition, and interdependence tradition to identify an interpersonal process termed the *Michelangelo phenomenon*. The Michelangelo phenomenon describes the means by which the self is shaped by a close partner's perceptions and behavior. Specifically, self movement toward the ideal self is described as a product of partner affirmation, or the degree to which a partner's perceptions of the self and behavior toward the self are congruent with the self's ideal. The results of 4 studies revealed strong associations between perceived partner affirmation and self movement toward the ideal self, using a variety of participant populations and measurement methods. In addition, perceived partner affirmation—particularly perceived partner behavioral affirmation—was strongly associated with quality of couple functioning and stability in ongoing relationships.

Living with him, she had come to believe that men and women are given, or seek unawares the experience they require.... She thought often about Michelangelo's statues that they had seen years ago in Florence in the first excitement of their love, figures hidden in the block of stone, uncovered only by the artist's chipping away the excess, the superficial blur, till smooth and spare, the ideal shape was revealed. She and Ivan were hammer and chisel to each other.

-Lynn Sharon Schwartz, Rough Strife

The self does not spring full-blown from a vacuum. A person's dispositions, values, and behavioral tendencies are fashioned at least in part by interpersonal experience (cf. Cooley, 1902; Goffman, 1959). Among the many interpersonal forces that shape the self, few, if any, "sculptors of the self" are likely to exert effects as powerful as those of our close partners. It seems clear that such effects can vary from exceedingly positive to exceedingly negative: Some close partners bring out the best in each other, whereas others either fail to do so or bring out the worst in each other.

In the present work we introduce the concept of partner affirmation to describe the degree to which a close partner's perceptions of the self and behavior toward the self are congruent with the self's ideal. We also identify an interdependence process termed the *Michelangelo phenomenon*—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. We suggest that the Michelangelo phenomenon is associated with vitality and adjustment in ongoing close relationships. The results of four studies provide evidence that is consistent with our general model.

#### Behavioral Confirmation in Interdependent Relationships

The logic of our analysis begins with the concept of behavioral confirmation, typically defined as the means by which an interaction partner's expectations about the self become reality through the partner's elicitation of behaviors from the self that confirm the partner's expectations (cf. Darley & Fazio, 1980; Merton, 1948; Harris & Rosenthal, 1985). How does this process unfold? Interaction partners develop beliefs regarding the self-beliefs about the self's strengths and limitations, preferences and disinclinations. Over the course of interaction, partners tend to behave in ways that are congruent with their beliefs about the self. In so doing, interaction partners (a) create opportunities for the self to display some behaviors, (b) constrain interaction in such a manner as to inhibit the self's display of other behaviors, and (c) thereby elicit a subset of the self's full repertoire of possible behaviors. Over the course of interaction the self comes to behave in a manner that is increasingly close to the partner's expectations (e.g., Rosenthal & Jacobson, 1968; Snyder, Tanke, & Berscheid, 1977). In fact, selfperceptions sometimes become aligned with partner expectations (e.g., Fazio, Effrein, & Falender, 1981; Murray, Holmes, & Griffin, 1996b).

Presumably, some types of interaction partners provide stronger confirmation effects than do others. Interdependence theory sug-

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gests that in ongoing close relationships the confirmation process is likely to be rather powerful, in that over the course of long-term involvement the behaviors that begin as interaction-specific adaptations become embodied in relatively stable dispositions and habits (cf. Kelley, 1983; Kelley & Thibaut, 1978; Rusbult & Van Lange, 1996). How so? In interdependent relationships, the wellbeing of the self is influenced not only by the self's preferences and behavior but also by the preferences and behavior of the partner. Accordingly, interdependence creates diverse opportunities for a partner to modify the self. A close partner (a) may behave in ways that make it desirable for the self to enact some behaviors while inhibiting others or (b) may possess dispositions or motives, the display of which make it desirable for the self to cultivate some dispositions or motives while extinguishing others. As a consequence of repeated interaction-during which the self adapts to the partner by selectively developing some tendencies while eliminating others-a close partner may powerfully influence the self's behavioral repertoire, long-term motives, and stable dispositions. For example, if Mary's attempts to behave in a warm and intimate manner are met repeatedly by rejection or betrayal on the part of John, Mary may come to react to intimate situations by adopting a habitually cool or distant style. As a consequence of such day-today adaptations, close partners sculpt one another's selves, chipping away some aspects of the self and revealing other aspects. The self becomes a reflection of the interdependence reality created by the partner.

## Partner Affirmation and the Michelangelo Phenomenon

What is the Michelangelo phenomenon, and how does it relate to the process of behavioral confirmation in ongoing interdependent relationships? In introducing this phenomenon it is useful to use a broad metaphor, considering the manner in which sculpting was envisioned by one of its greatest practitioners. Michelangelo Buonarroti described sculpting as a process whereby the artist released a hidden figure from the block of stone in which it slumbered (cf. Gombrich, 1995; Wölfflin, 1986). The artist's task was simple: to remove the stone that covered the figure. Thus, the creative process and the artist's tools were aspects of salvation: By chipping away at the stone, the form slumbering in the block was allowed to emerge. In Michelangelo's vision, the slumbering figure that lay hidden in the stone was something heroic, vibrant, and divine; the figure slumbering in the stone was the "ideal form."

Like blocks of stone, humans, too, possess ideal forms. The human equivalent of the hidden ideal form is a possible self to which the individual aspires (cf. Higgins, 1987; Markus & Nurius, 1986; Rogers, 1961). Although the ideal self may slumber to some degree, this hidden internal construct can exert considerable influence on personal well-being. For example, to the extent that our actual selves diverge from our ideal selves, we experience sadness, dejection, and frustration. Therefore, individuals are motivated to bring the actual self into alignment with the ideal self (e.g., Higgins, 1989, 1996a; Moretti & Higgins, 1990; Strauman & Higgins, 1988).

The concept of partner affirmation describes the manner in which a close partner sculpts the self or the degree to which the partner is an ally (vs. a foe) in moving the self closer to his or her ideal. Partner perceptual affirmation describes the degree to which the partner's perceptions of the self are congruent with the ideal self. John exhibits greater perceptual affirmation to the extent that he holds beliefs about Mary that are close to what she ideally would like to be or to the extent that he sees the best of what Mary might be. As illustrated in Figure 1, we suggest that partner perceptual affirmation yields partner behavioral affirmation, which describes the degree to which the partner's behavior toward the self is congruent with the ideal self. John exhibits greater behavioral affirmation to the extent that he enacts behaviors that draw out the best in Mary or to the extent that he sculpts toward Mary's ideal self. In turn, partner behavioral affirmation is argued to yield self-movement toward the ideal self: The self increasingly becomes a reflection of that which the self ideally wishes to be. This three-step process collectively describes the Michelangelo phenomenon.

Thus, the Michelangelo metaphor describes a beneficent unfolding of the confirmation process-*affirmation* describes a form of



confirmation in which effects on the self are congruent with the self's ideal. When John's perceptions of and behavior toward Mary are congruent with Mary's ideal, John will sculpt toward her ideal: He will elicit behaviors and dispositions that are consistent with Mary's ideal self. For example, assume that sociability is a central component of Mary's ideal self, in that Mary aspires to be a more sympathetic and loving person. At a dinner party, John may direct conversation in such a manner as to call forth Mary's ideal self, eliciting warm, affectionate, and friendly behaviors. Over the course of frequent interactions during which John elicits her ideal self, Mary will flourish, moving closer to what she ideally would like to be.

Of course, the sculpting process may serve to bring out the best or the worst in the self. The concept of affirmation is a continuum, ranging from (a) affirmation at the upper end of the continuum through (b) failure to affirm to (c) disaffirmation at the lower end of the continuum. There are two ways in which a partner may fail to affirm (or actively disaffirm) the self's ideal. First, a partner's perceptions of the self and behavior toward the self may be antithetical to the self's ideal. For example, John may believe that Mary is somewhat cool and remote, lacking in social graces. On the basis of such beliefs, John may inadvertently (or deliberately) create situations in which she is likely to appear cool or aloof. Mary will find that it is difficult to behave in a friendly and affectionate manner when John is present and may become an increasingly aloof and unsympathetic person. Moreover, Mary may become aware of the fact that she is not at her best when she is with John, and she may feel disappointed that John's opinion of her is antithetical to her ideal self.

Second, a partner's perceptions of and behavior toward the self may be oriented toward an ideal that is irrelevant to the self's ideal. For example, if Mary is indifferent to the issue of physical beauty yet John believes that she is an attractive person, John may expend a good deal of energy promoting Mary's beauty: He may praise her when she exercises, make recommendations regarding clothing, or note that her new haircut is flattering. At some level, Mary may appreciate the fact that John thinks she is beautiful; she may even become an increasingly attractive person. At the same time, John's behavior will do little to promote the qualities that are central to Mary's ideal self. Mary may become increasingly aware of the fact that John's goals are irrelevant to her personal aspirations, and she may feel disappointed that John has missed the point in his understanding of her ideal self.

Interestingly, some theorists have proffered theories of growth that are thoroughly antithetical to the present model. For example, Guggenbuhl-Craig (1977) suggested that disaffirmation may be desirable, in that personal growth rests on the ability and inclination of close partners to identify one another's weaknesses and to bring them to one another's attention in such a manner that weaknesses cannot be ignored. From this point of view, "every path to salvation leads through Hell. ... A marriage only works if one opens himself to exactly that which he would never ask for otherwise. Only through rubbing oneself sore and losing oneself is one able to learn about oneself" (Guggenbuhl-Craig, 1977, pp. 44-45). The Michelangelo phenomenon represents an optimistic counterpoint to this "growth-as-hell" model, suggesting that personal well-being (and couple well-being) rests on the ability and inclination of close partners to bring out the best in one another, not to identify the worst in one another.

By what mechanisms does partner affirmation modify the self? By what mechanisms might a partner produce movement toward the ideal self (or movement away from the ideal self, in the case of disaffirmation)? According to interdependence theory, there are three mechanisms of adaptation by which partner actions may select specific behaviors, motives, or dispositions on the part of the self (Kelley, 1983). First, a partner may engage in retroactive selection (i.e., selective reinforcement), wherein a partner may reward (or punish) certain preferences, motives, and behaviors of the self. Second, a partner may engage in preemptive selection (i.e., selective instigation), wherein a partner may enact specific behaviors that elicit (or inhibit) certain preferences, motives, and behaviors of the self. Third, a partner may engage in situation selection (i.e., manipulation of interdependence situations), wherein a partner may create interdependence situations in which certain preferences, motives, and behaviors of the self become more probable (or less probable).

In the present article we do not seek to identify the underlying causes of affirmation nor do we examine the precise mechanisms by which affirmation comes about. However, we speculate that affirming perception and behavior may involve either deliberate or automatic mechanisms arising from either conscious or unconscious processes (cf. Uleman & Bargh, 1989). Some partners may consciously consider what the self ideally wishes to become, deliberately enacting behaviors that are intended to further such goals. For example, John may accurately discern that Mary wants to be an affectionate and sympathetic person, and his conscious attempts to facilitate her sociability may be part of the foundation of their relationship. Other -partners may unconsciously and automatically exhibit affirming perception and behavior. For example, with no conscious effort John may perceive Mary's capacity for warmth, and he may automatically behave in a manner that encourages her sociability. Such unconscious and automatic compatibility of self-goals and partner-goals-for-self might result from any number of several underlying causes, including congruence of personal values, compatible implicit personality theories, or similarity of actual selves or ideal selves (cf. Byrne, 1971; Schneider, 1973; Smith, Bruner, & White, 1956; Wetzel & Insko, 1982).

As illustrated in Figure 1, we suggest that the Michelangelo phenomenon is associated with enhanced vitality and adjustment in an ongoing relationship. Why should this be so? First, a partner who perceptually affirms the ideal self demonstrably exhibits empathic understanding (cf. Ickes, Stinson, Bissonnette, & Garcia, 1990). Such understanding should enhance feelings of love (e.g., "You see me as I ideally want to be"). Second, behavioral affirmation should promote outcome correspondence and ease of coordination, in that partners' behaviors are synchronized rather than at odds: Both partner and self behave in ways that are compatible with the self's ideal (cf. Rusbult & Van Lange, 1996). Relationships with greater correspondence should exhibit greater adjustment (e.g., "We act in harmony to move toward shared goals"). Third, movement toward the ideal self is gratifying (cf. Higgins, 1996b; e.g., Campbell, Sedikides, & Bosson, 1994; Ruvolo & Brennan, 1997). Partners who bring about such gratification are likely to be highly valued (e.g., "I'm a better person when I'm with you").

# Distinguishing Partner Affirmation and the Michelangelo Phenomenon From Related Phenomena

It is important to distinguish the Michelangelo phenomenon from related interpersonal processes. First, how does the Michelangelo phenomenon differ from a process that might be termed the Pygmalion phenomenon? Whereas the Michelangelo phenomenon describes a partner who sculpts the self's ideal form (i.e., the sculpture's ideal), the Pygmalion phenomenon describes a partner who sculpts the partner's ideal form (i.e., the sculptor's ideal). Some research provides indirect support for the Pygmalion phenomenon, revealing that individuals are attracted to persons who are similar to their own ideal selves (e.g., LaPrelle, Hoyle, Insko, & Bernthal, 1990; Wetzel & Insko, 1982). We suggest that although it may be aesthetically pleasing when a loved one matches one's own ideal, the well-being of both the self and the couple will be further enhanced to the extent that a partner perceives the self and behaves toward the self in a manner that is congruent with the self's ideal.

Second, how does the Michelangelo phenomenon differ from *self-expansion* (cf. Aron & Aron, 1997)? Some research suggests that strong interdependence involves incorporating features of the partner into the self, demonstrating that self-expansion enhances personal well-being and feelings of satisfaction with a relationship (e.g., Agnew, Van Lange, Rusbult, & Langston, 1998; Aron, Paris, & Aron, 1995). We suggest that it is not straightforward self-expansion per se, but ideal-self-expansion—or the self's expansion in the direction of the ideal self—that promotes the self's well-being and enhances couple vitality. That is, inclusion of a partner in the self should promote the well-being of the self and the couple primarily when inclusion promotes self movement toward one's ideal.

Third, how does partner affirmation differ from *partner enhancement*, or partner behavior that is exceptionally positive with regard to the self? Some research suggests that partner enhancement is linked with couple well-being, demonstrating that partners' beliefs to some degree are prescient: Selves whose partners view them in a favorable light not only are more satisfied with their relationships but also develop more positive self-images over the course of long-term involvement (Murray, Holmes, & Griffin, 1996a, 1996b; Rusbult, Van Lange, Yovetich, Wildschut, & Verette, 1998). We suggest that partner affirmation—or partner regard that is both positive and congruent with the ideal self—will yield benefits beyond the benefits of enhancement per se. That is, partner enhancement should promote the well-being of the self and the couple primarily when partner beliefs are both positive and compatible with the self's ideal.

Fourth, how does partner affirmation differ from *partner verification*, or partner behavior that is congruent with the actual self (cf. Swann, 1990)? Research in which the self's desire to create a social reality that is congruent with the actual self suggests that whereas positive partner regard is valued and enhances intimacy among individuals with high self-esteem, positive partner regard is unpleasant for individuals with low self-esteem, particularly in marital relations (e.g., Swann, De La Ronde, & Hixon, 1994; Swann & Predmore, 1985). We suggest that although the self may appreciate a partner who accurately perceives the self's strengths and limitations, the self simultaneously hopes that the partner (a) will love the self despite any limitations and (b) will perceive the best that the self can be, behaving in a manner that promotes the self's ideal.

# Research Overview and Hypotheses

We conducted four studies to test the hypotheses implied in the preceding analysis. In each study we obtained participant reports of (a) perceived partner perceptual affirmation, (b) perceived partner behavioral affirmation, (c) self movement toward the ideal self, and (d) couple well-being, operationally defined by two measures: scores on the Dyadic Adjustment Scale (Spanier, 1976), which is a frequently used index of couple functioning and later relationship status (persisted vs. ended). Why did we obtain self reports rather than partner reports of partner affirmation? As noted earlier, although partner affirmation may sometimes come about by means of conscious thought and deliberate action, we suspect that frequently, affirmation results from unconscious and automatic processes. At the same time, we assume that the self to some degree is aware of partner affirmation (or can report on affirmation when asked to do so), in that affirmation is a determinant of the self's personal well-being. Accordingly, we anticipated that the self might be in a better position to report on affirmation than the partner, and therefore we obtained self descriptions of perceived partner perceptual affirmation and perceived partner behavioral affirmation. (For the sake of brevity, in the Method and Results sections we refer to these constructs as "partner perceptual affirmation" and "partner behavioral affirmation" or simply "perceptual affirmation" and "behavioral affirmation.") Given that we examined perceived affirmation, we also sought to determine whether such perception reflects an observable reality, a reality that to some degree is evident to other persons. Accordingly, for some constructs we obtained data from multiple perceivers' points of view, for example, from both the self and a close friend.

In our first three hypotheses we assess the three primary links in the model presented in Figure 1: the associations between contiguous model variables. In our first hypothesis we assert that when a partner perceives the self in a manner that is congruent with the ideal self, the partner will likewise tend to behave toward the self in a manner that is congruent with the ideal self; when a partner perceives the self in a manner that is antithetical to the ideal self, the partner will tend to behave in a manner that is antithetical to the ideal self (i.e., the partner will exhibit behavioral disaffirmation):

Partner affirmation hypothesis: Perceived partner perceptual affirmation will be positively associated with perceived partner behavioral affirmation.

In a second hypothesis we assert that when a partner behaves toward the self in a manner that is congruent with the ideal self, the self will experience movement toward the ideal self; when a partner behaves in a manner that disaffirms the ideal self, the self will experience movement away from the ideal self:

Movement-toward-ideal hypothesis: Perceived partner behavioral affirmation will be positively associated with self movement toward the ideal self.

In a third hypothesis we assert that self movement toward the ideal self will produce enhanced couple well-being; self movement away from the ideal self will yield deterioration in couple wellbeing:

*Couple well-being hypothesis:* Self movement toward the ideal self will be positively associated with couple well-being.

Two additional hypotheses concern the mediation of links presented in Figure 1. First, we suggest that whereas both perceptual affirmation and behavioral affirmation will exhibit simple associations with self movement toward the ideal self, the latter variable will stand as the more direct, proximal mediator of such movement:

Mediation of movement-toward-ideal hypothesis: Perceived partner perceptual affirmation and perceived partner behavioral affirmation will exhibit positive associations with self movement toward the ideal self. However, behavioral affirmation will partially or wholly mediate the association of movement toward ideal with perceptual affirmation.

Second, we suggest that whereas partner perceptual affirmation, partner behavioral affirmation, and self movement toward the ideal self will exhibit simple associations with couple well-being, the latter variable will stand as the most direct, proximal mediator of couple well-being.

Mediation of couple well-being hypothesis: Perceived partner perceptual affirmation, perceived partner behavioral affirmation, and self movement toward the ideal self will exhibit positive associations with couple well-being. However, self movement toward the ideal self will partially or wholly mediate the associations of couple well-being with partner perceptual affirmation and partner behavioral affirmation.

Two final hypotheses concern the validity of the affirmation construct in light of alternative explanations of personal and couple well-being. First, we wished to establish that partner behavioral affirmation accounts for unique variance in well-being to demonstrate that the associations of behavioral affirmation with self movement toward the ideal self and with couple well-being are not attributable to related constructs, such as behavioral verification or behavioral enhancement.

Affirmation versus verification and enhancement hypothesis: Perceived partner behavioral affirmation will account for unique variance in self movement toward the ideal self and couple well-being. When the simultaneous effects of behavioral affirmation and behavioral verification (or behavioral enhancement) are examined, links with perceived partner behavioral affirmation will remain strong.

Second, we wished to establish that the associations among model variables are not moderated by the self's self-esteem level. Researchers, through some prior research, have demonstrated that positive partner behavior yields good consequences for individuals with high self-esteem, in that such positivity is consistent with the self's high self-regard. In contrast, partner positivity yields bad consequences for individuals with low self-esteem, particularly in the context of marital relations, in that such positivity is inconsistent with the self's low self-regard (e.g., Swann et al., 1994; Swann & Predmore, 1985). It should be clear that the concept of partner affirmation does not reflect simple positivity; this construct reflects the congruence of partner behavior with the ideal self. Nevertheless, to evaluate the generalizability of our findings, we

sought to demonstrate that the association of partner affirmation with well-being is neither mediated nor moderated by self-esteem.

Mediation and moderation of affirmation effects by self-esteem hypothesis: Self-esteem will not significantly mediate or moderate the association of perceived partner affirmation with well-being. When the simultaneous effects of behavioral affirmation, self-esteem, and the Self-Esteem  $\times$  Affirmation interaction are examined, (a) the associations of behavioral affirmation with personal and couple well-being will remain strong, and (b) the Self-Esteem  $\times$  Affirmation interaction will not be significant.

Study 1 was a three-wave longitudinal study of dating relationships. These data allowed us to not only examine concurrent associations among model variables but also determine whether earlier levels of model variables are associated with change over time in each criterion. Study 2 was a two-wave longitudinal study in which we obtained descriptions of participants' dating relationships from the point of view of both the participants and their same-sex friends. These data allowed us to perform hypothesis tests using friends' data as predictors and participants' data as criteria, thereby ruling out individual-level perceptual processes or response bias as an explanation of the observed findings. In Study 3 we used a method that differed from that applied in the other studies: We obtained reports of the ideal self, partner perceptions of the self, and partner behavior toward the self and then used these data to measure the congruence of partner perception and behavior with the ideal self. These data allowed us to examine the convergence of our findings across differing measurement methods. Finally, in Study 4 we obtained data from married partners, allowing us to explore the generalizability of our findings to marital relationships. In addition to providing convergent evidence relevant to the partner affirmation, movement-toward-ideal, and couple well-being hypotheses (as well as the mediation of the latter two effects), in Studies 1 through 4 we were able to obtain data that allowed us to (a) assess the unique effects of partner affirmation in comparison with partner verification (Studies 2 and 3) and partner enhancement (Study 3) and (b) determine whether the associations among model variables are mediated or moderated by the self's level of self-esteem (Studies 2 and 4).

#### Study 1

Study 1 was a three-wave longitudinal study of dating relationships. At Times 1, 2, and 3 both partners provided measures of partner perceptual affirmation, partner behavioral affirmation, and dyadic adjustment; at Times 2 and 3 both partners provided measures of self movement toward the ideal self and partner movement toward the ideal self. The broad goals of Study 1 were to (a) assess the simple links among model variables predicted in the partner affirmation, movement-toward-ideal, and couple well-being hypotheses and (b) assess the patterns of mediation predicted in hypotheses regarding the mediation of movement toward ideal and mediation of couple well-being. Given that we obtained data on three separate occasions, we tested our hypotheses both in concurrent analyses and in analyses examining change over time in model criteria. In addition, given that we obtained data from both partners on three separate occasions, we were able to evaluate the testretest reliability and across-partner validity of our measures and findings.

# Method

*Participants and recruitment.* Fifty-three heterosexual couples (53 women, 53 men) took part in a three-wave longitudinal study of romantic relationships conducted at the University of North Carolina at Chapel Hill (for a full description of the study, see Drigotas, 1993).<sup>1</sup> Couples were recruited by means of a two-stage process: (a) Project descriptions were posted on the notice board for the research participant pool, as well as in the campus newspaper and (b) interested couples contacted a research assistant to receive information about the project and to volunteer to participate. Couples were paid \$10 for their participation in each research occasion; persons recruited through the research participant pool also received credit toward partial fulfillment of the requirements for introductory psychology courses.

At Time 1 participants were 19.94 years old on average, with approximately equal numbers from each year in school (17% freshmen, 28% sophomores, 24% juniors, 23% seniors, 8% other). The majority were Caucasian (6% African American, 1% Asian American, 90% Caucasian, 1% Latino, 2% other). At Time 1 participants had been involved in their relationships for an average of 19.17 months. Most participants described their involvements as steady dating relationships (5% dating casually, 10% dating regularly, 74% dating steadily, 11% engaged or married), and most described their relationships as monogamous (91% said neither partner dated others, 5% said one partner dated others, 4% said both dated others).

*Procedure.* We obtained data from couples on three occasions over the course of an academic semester, once every 4 to 5 weeks. Over the course of the study 13 relationships ended; the sample included 53 couples at Time 1, 45 couples at Time 2, and 40 couples at Time 3. At each occasion partners attended sessions during which they completed questionnaires and participated in laboratory tasks relevant to broader project goals. Partners were separated so they could not view one another's responses while completing their questionnaires. At the end of each research occasion couples were partially debriefed, paid, and thanked for their assistance.

Questionnaires. The questionnaires administered at Times 1, 2, and 3 included an instrument to measure beliefs about the partner's perceptions and behavior (for each item, 0 = do not agree at all, 8 = agree completely).Three items measured partner perceptual affirmation ("My partner sees me as the person I ideally would like to be"; "My partner regards me as the sort of person I would most like to become"; "My partner thinks I have the traits and dispositions that I believe are most desirable"), and three items measured partner behavioral affirmation ("My partner treats me in a way that is close to the person I would ideally like to be"; "My partner helps me become what I ideally want to be-he/she elicits the best in me"; "My partner behaves as though I possess the traits that I believe are most desirable"). The questionnaires administered at Times 2 and 3 included instruments to measure movement toward the ideal self. In measuring self movement toward the ideal self, the participant was asked to list the four most important characteristics of his or her ideal self. Participants listed qualities such as kindness, maturity, and self-confidence. For each quality, participants were instructed as follows: "Think about your relationship with your partner. To what degree have you changed with respect to Characteristic #1 as a result of being involved with your partner?" (-4 =have become less like this characteristic, 4 = have become more like this characteristic). In measuring partner movement toward the ideal self participants listed the four most important qualities of the partner's ideal self, describing the degree to which the partner had changed with respect to each quality (-4 = partner has become less like this characteristic, 4 =partner has become more like this characteristic). The questionnaires administered at Times 1, 2, and 3 measured couple well-being with a version of Spanier's (1976) Dyadic Adjustment Scale suitable for dating relationships. This 32-item instrument assesses qualities of adjustment such as intimacy, agreement, effective problem solving, and shared activities (e.g., "Do you and your partner engage in outside interests together?" 0 = none of them, 4 = all of them).

# Results

Reliability and validity of measures. Reliability analyses performed at Times 1, 2, and 3, respectively, revealed adequate alphas for items tapping partner perceptual affirmation ( $\alpha s = .86, .78, and$ .84), partner behavioral affirmation ( $\alpha s = .86, .93, and .95$ ), and dyadic adjustment ( $\alpha$ s = .89, .91, and .92). Analyses performed at Times 2 and 3, respectively, revealed adequate alphas for items tapping self movement toward the ideal self ( $\alpha s = .70$  and .81) and partner movement toward the ideal ( $\alpha s = .67$  and .75; these constructs were not measured at Time 1). Accordingly, we averaged the items designed to assess each variable to develop a single measure of each construct. We calculated test-retest correlations to determine whether our measures exhibited acceptable stability over time. These analyses revealed significant Time 1-to-Time 2 and Time 2-to-Time 3 associations for all model variables (average r = .77; rs ranged from .66 to .83, all ps < .01). To determine whether partners agreed in their descriptions of model variables, we calculated correlations between partners' reports of parallel constructs. Men's reports of self movement toward the ideal self were correlated with their partners' reports of partner movement toward the ideal self (Time 2 and 3 rs = .39 and .41, respectively); parallel associations were observed for women (Time 2 and 3 rs =.36 and .32, all ps < .05). Also, male and female partners agreed in their reports of dyadic adjustment (Time 1, 2, and 3 rs = .41, .43, and .46, respectively; all ps < .01). Thus, all available data suggest that our measures were acceptably reliable and valid indexes of the constructs they were intended to assess.

Analysis strategy. We used a two-step analysis strategy to estimate effect sizes and significance levels in simultaneous regression analyses. In Step 1 we calculated the proportion of variance accounted for by each model variable, pooling the data for male and female partners at all research occasions. All Step 1 analyses included main effects of time and gender, the Time × Gender interaction, the interaction of time with each model variable, the interaction of sex with each model variable, and the three-factor interaction of Time × Gender with each model variable. Step 1 analyses provided estimates of (a) the beta for each variable and (b) the proportion of variance accounted for by each variable (Step 1 effect  $SS \div$  Step 1 total SS).<sup>2</sup>

The data from male and female partners at multiple research occasions were nonindependent, so the error terms in Step 1 analyses are inappropriate (i.e., they are based on pooled nonindependent data) and the degrees of freedom are inflated (e.g., the degrees of freedom reflect observations from men and women on

<sup>&</sup>lt;sup>1</sup> Data from this study were also used in (a) Drigotas, Rusbult, and Verette (in press; Study 1), in which the association of mutuality of commitment with couple well-being was examined; (b) Van Lange, Rusbult, Drigotas, Arriaga, Witcher, and Cox (1997: Study 4), in which the association of commitment with willingness to sacrifice was examined; and (c) Wieselquist, Rusbult, Foster, and Agnew (1998; Study 1), in which the associations among commitment, accommodation, and trust were examined.

<sup>&</sup>lt;sup>2</sup> Six sets of data were pooled in the Step 1 analyses in which we examined concurrent associations among model variables: data for male and female partners' Time 1, 2, and 3 variables. Four sets of data were pooled in the analyses in which we examined lagged associations among variables: data for predicting male and female partners' Time 2 criteria

multiple research occasions). In Step 2 we performed analyses relevant to assessing the significance of each Step 1 effect. In Step 2 we replicated the Step 1 analyses separately for male and female partners at each research occasion. We used a conservative procedure to identify an appropriate error term (and associated degrees of freedom) for use in calculating significance levels for Step 1 effects, using information from the Step 2 analysis with the weakest effect for the variable of interest. The Step 2 procedure identified (a) the error term for calculating the significance of each Step 1 effect (1 – [Step 2 model  $SS \div$  Step 2 total SS]) and (b) the appropriate degrees of freedom for calculating the significance of each Step 1 effect (the Step 2 numerator and denominator degrees of freedom for each effect).<sup>3</sup>

On the basis of the results of the Step 1 and Step 2 analyses, we calculated an F value for each effect using the following equation:

 $\frac{(\text{Step 1 effect } SS \div \text{Step 1 total } SS)}{(1 - [\text{Step 2 model } SS \div \text{Step 2 total } SS])}$ 

 $\times \frac{\text{Step 2 denominator effect } df}{\text{Step 2 numerator effect } df}$ 

To report ts for model variables, we calculated the (signed) square root of the F value for each effect. Given that our analysis strategy is relatively conservative, we report one-tailed significance tests for all associations for which we advanced a priori hypotheses.

Note that the logic underlying our calculations parallels the logic underlying traditional procedures for calculating effect sizes and significance levels. The difference is that in estimating the proportion of variance accounted for by a given variable (i.e., in estimating numerator effects), we pooled data across multiple data sets. It is reassuring to note that the *ts* obtained using this procedure are very close, albeit slightly smaller, than those obtained by averaging the *ts* from the individual Step 2 analyses. In all instances, the significance versus nonsignificance of the obtained *t* value was identical to the significance versus nonsignificance of the average *t* value from the individual Step 2 analyses.

Table 1 summarizes findings from concurrent analyses, and Table 2 summarizes findings from residualized lagged analyses. In both the concurrent analyses and the residualized lagged analyses, we first examined the association of each criterion with its presumed proximal predictor (see Tables 1 and 2, statistics for Model 1). We also performed mediation analyses, examining the association of each criterion with its presumed proximal and distal predictors (Baron & Kenny, 1986; see statistics for Model 2). (Note that no mediation is examined for the partner affirmation hypothesis because this is the first link in the proposed model; there are no presumed distal predictors.)

To facilitate interpretation of regression results (see statistics under "Regression analysis" in Tables 1 and 2), when a given analysis includes two or more model variables we also present the simple association of each variable with the criterion (see statistics under "Simple association"). The simple association reflects the association of a given model variable with the criterion in an analysis that takes into account variance attributable to time, sex, and interactions with time and sex. We present this type of simple association rather than a correlation coefficient because this type of simple association parallels the regression results and accordingly represents a suitable univariate baseline for interpreting regression results. Thus, all statistics presented in Tables 1 and 2 are based on analyses that included main effects and interactions for time and sex. However, no effects involving time or sex were significant, so these variables will not be discussed in the following summary of our findings.

Partner affirmation hypothesis. The partner affirmation hypothesis suggested that partners who perceive the self in a manner that is congruent with the ideal self would tend to behave toward the self in a manner that is congruent with the ideal self. Consistent with expectations, the concurrent analyses revealed that partner perceptual affirmation was positively associated with partner behavioral affirmation (see Table 1, "Partner affirmation hypothesis" statistics under "Regression analysis";  $\beta = .80, p < .01$ ; no simple association is presented because for a one-predictor model, the regression analysis and simple association are identical). The lagged analyses revealed that although the simple association of earlier partner perceptual affirmation with later partner behavioral affirmation was significant (see Table 2, "Partner affirmation hypothesis" statistics under "Simple association";  $\beta = .63$ , p < .63.01), this association was nonsignificant in the residualized lagged analysis (see Table 2, statistics under "Regression analysis";  $\beta =$ .11, ns). That is, earlier partner perceptual affirmation did not account for significant change over time in partner behavioral

from Time 1 predictors, as well as data for predicting Time 3 criteria from Time 2 predictors. All variables were centered. Step 1 analyses in which we examined the simple concurrent association of a given variable (VarA) with a given criterion included 7 variables: time, sex, Time  $\times$  Sex, VarA, VarA  $\times$  Time, VarA  $\times$  Sex, and VarA  $\times$  Time  $\times$  Sex. In a parallel manner, analyses in which we examined the simultaneous concurrent associations of two model variables (VarA and VarB) with a given criterion included 11 variables: In addition to the variables listed above, two-predictor models also included VarB, VarB × Time, VarB × Sex, and  $VarB \times Time \times Sex$ . Step 1 analyses in which we examined the residualized lagged association of an earlier model variable (Earlier VarA) with a later criterion (Later X) included 8 variables (or 12 variables, for a two-predictor model). Later measures of the criterion were regressed onto earlier measures of model variables, controlling for earlier levels of the criterion: in addition to the variables listed above, each analysis also included as a predictor variable the earlier measure of the criterion (Earlier X). In essence, in this type of analysis one examines the association of earlier model variables with change over time in the criterion.

<sup>&</sup>lt;sup>3</sup> Step 2 analyses in which we examined the association of two predictor variables with a given criterion included just two variables (i.e., there were no main effects or interactions involving time or sex because Step 2 analyses were performed separately for each sex at each time). Six sets of analyses were performed in the Step 2 analyses in which we examined concurrent effects, and four sets of analyses were performed in the Step 2 analyses in which we examined lagged effects. To identify an appropriate error term (and the associated degrees of freedom) for use in calculating significance levels for Step 1 effects, in an analysis in which we examined the simple association of a given predictor variable (VarA) with a given criterion, we selected the Step 2 analysis in which the effect size for VarA was weakest. In like manner, in an analysis in which we examined the simultaneous association of two predictor variables (VarA and VarB) with a given criterion, we selected the Step 2 analysis in which the effect size for the critical variable was weakest (e.g., in a mediation analysis, if VarA was the presumed proximal predictor, we selected the Step 2 analysis in which the effect size for VarA was smallest).

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# Table 1

Concurrent Regression Analyses Predicting Perceived Partner Behavioral Affirmation, Self Movement Toward the Ideal Self, and Couple Well-Being: Study 1

	Sim	ple association		Regression analysis		
Criterion	β	t	β	t	<i>R</i> <sup>2</sup>	
	Partner affirm	ation hypothesi	s			
Partner behavioral affirmation						
Model 1						
Partner perceptual affirmation	—	—	.80	6.34**	.62**	
N	lovement-towa	rd-ideal hypoth	esis			
Self movement toward the ideal self						
Model 1						
Partner behavioral affirmation			.60	3.82**	.42**	
Model 2						
Partner behavioral affirmation	.60	3.82**	.55	3.56**	.45**	
Partner perceptual affirmation	.50	3.23**	.07	0.44		
	Couple well-t	eing hypothesi	s			
Dvadic adjustment						
Model 1						
Self movement toward the ideal se	elf —	_	.49	3.06**	.27**	
Model 2						
Self movement toward the ideal se	elf .49	3.06**	.14	0.89	.53**	
Partner behavioral affirmation	.65	5.09**	.44	2.10*		
Partner perceptual affirmation	.60	4.20**	.21	1.08		

*Note.* In addition to the variables listed above, all analyses also included main effects of time and gender, the Time  $\times$  Gender interaction, and all two- and three-factor interactions of time and gender with each model variable. A dash indicates models for the simple association and for regression analysis are identical. For t values, numerator df = 1; denominator df varied from 36 to 51.

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

affirmation. It is possible that earlier behavioral affirmation was so strongly associated with later behavioral affirmation that there was insufficient remaining variance to examine associations with other variables; that is, it is possible that there was insufficient change over time in perceived partner behavioral affirmation ( $\beta = .80$  for the simple association of earlier behavioral affirmation with later behavioral affirmation). Thus, the partner affirmation hypothesis was supported in the concurrent analyses; findings from the residualized lagged analyses were inconclusive.

Movement-toward-ideal hypothesis. The movement-toward-ideal hypothesis suggested that partner behavior that is perceived to be congruent with the ideal self would be associated with greater self movement toward the ideal self. Consistent with expectations, the concurrent analyses revealed that partner behavioral affirmation was positively associated with self movement toward the ideal self (see Table 1, "Movement-toward-ideal hypothesis," Model 1, statistics under "Regression analysis"). The lagged analyses revealed that the simple association of earlier behavioral affirmation with later movement toward ideal was significant (see Table 2, Model 1, "Simple association"). In addition, this association was marginally significant in the residualized lagged regression analysis; that is, earlier partner behavioral affirmation was marginally associated with change over time in self movement toward the ideal self (see Table 2, Model 1, "Regression analysis").

Given that partners provided measures of self movement toward the ideal self and partner movement toward the ideal self, it was possible to perform across-partner analyses relevant to the movement-toward-ideal hypothesis. In these analyses, we examined the pooled concurrent association of each person's predictor with the partner's criterion. Consistent with expectations, the male partner's report of partner behavioral affirmation was marginally associated with the female partner's report of partner movement toward the ideal self (r = .22, p < .10); a parallel association was evident among the women (r = .22, ps < .10). Thus, the movement-toward-ideal hypothesis was supported in the concurrent analyses and (marginally) in the residualized lagged analyses in which change over time in self movement toward the ideal self was examined; additional support was observed in across-partner analyses.

*Couple well-being hypothesis.* The couple well-being hypothesis suggested that the experience of self movement toward the ideal self would be associated with enhanced couple well-being. Consistent with expectations, the concurrent analyses revealed that self movement toward the ideal self was positively associated with dyadic adjustment (see Table 1, couple well-being hypothesis, Model 1). The lagged analyses revealed that the simple association of earlier self movement toward the ideal self with later dyadic adjustment was significant (see Table 2, Model 1, "Simple association"). In addition, this association was marginally significant in the residualized lagged analysis; that is, earlier self movement toward the ideal self with change over

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Residualized L	agged Regression	Analyses Predict	ing Perceived Partne	r Behavioral Affirmation,
Self Movement	t Toward the Idea	Self, and Couple	Well-Being: Study 1	

	S ass	imple ociation	Regression analysis		
Criterion	β	t	β	t	<i>R</i> <sup>2</sup>
Partner affir	rmation hy	pothesis			
Later partner behavioral affirmation Model 1					
Earlier partner perceptual affirmation	.63	3.95**	.11	0.57	.65**
Earlier partner behavioral affirmation	.80	6.35**	.71	3.89**	100
Movement-tov	ward-ideal	hypothesis			
Later self movement toward the ideal self Model 1					
Earlier partner behavioral affirmation	.44	5.97**	.21	1.64†	.62**
Earlier self movement toward the ideal self Model 2	.76	6.93**	.60	4.38**	
Earlier partner behavioral affirmation	.44	5.97**	.11	0.59	.64**
Earlier partner perceptual affirmation	.44	2.60**	.13	0.72	
Earlier self movement toward the ideal self	.76	6.93**	.62	4.25**	
Couple wel	I-being hy	pothesis			
Later dyadic adjustment Model 1					
Earlier self movement toward the ideal self	.49	3.03**	.13	1.43†	.73**
Earlier dyadic adjustment	.82	8.44**	.78	8.78**	
Model 2					
Earlier self movement toward the ideal self	.49	3.03**	.09	0.94	.75**
Earlier partner behavioral affirmation	.66	4.87**	.13	0.91	
Earlier partner perceptual affirmation	.54	3.64**	03	-0.28	
Earlier dyadic adjustment	.82	8.44**	.73	6.28**	
Model 3					
Earlier partner behavioral affirmation	.66	4.87**	.24	2.19*	.72**
Earlier dyadic adjustment	.82	8.44**	.69	6.52**	

*Note.* In addition to the variables listed above, all analyses also included main effects of time and gender, the Time  $\times$  Gender interaction, and all two- and three-factor interactions of time and gender with each model variable. For t values, numerator df = 1; denominator df varied from 31 to 43.

p < .10 (marginally significant). p < .05. p < .01.

time in couple well-being (see Table 2, Model 1, "Regression analysis").<sup>4</sup>

Given that both partners provided measures of dyadic adjustment, it was possible to perform across-partner analyses relevant to this hypothesis. In these analyses, we examined the pooled concurrent association of each person's predictor with the partner's criterion. Consistent with expectations, these analyses revealed that the male partner's report of self movement toward the ideal self was associated with the female partner's report of dyadic adjustment (r = .23, p < .05); a parallel association was evident among the women (r = .31, p < .05). Thus, the couple well-being hypothesis was supported in the concurrent analyses and (marginally) in the residualized lagged analyses in which change over time in couple well-being was examined; additional support was observed in across-partner analyses.

*Mediation of movement toward ideal.* We predicted that although both partner behavioral affirmation and partner perceptual affirmation would exhibit simple associations with self movement toward the ideal self, the presumed proximal predictor (behavioral affirmation) would partially or wholly mediate the association of the presumed distal predictor (perceptual affirmation) with self movement toward the ideal self. Consistent with the logic of mediation, the concurrent analyses revealed that although both partner behavioral affirmation and partner perceptual affirmation exhibited significant simple associations with self movement toward the ideal self (see Table 1, "Movement-toward-ideal hypothesis," Model 2, "Simple association"), when both variables were included in a simultaneous regression analysis, the coefficient for behavioral affirmation (the presumed proximal predictor) remained strong, whereas the coefficient for perceptual affirmation (the presumed distal predictor) declined to nonsignificance (see

<sup>&</sup>lt;sup>4</sup> A priori, we hoped to examine the associations of model variables with later relationship status (ended vs. persisted). However, only 13 of 53 relationships ended over the course of the study, so our power to detect differences as a function of later relationship status is quite low. We performed exploratory analyses to determine whether levels of model variables differed as a function of later relationship status and observed no substantively meaningful findings regarding this variable.

Table 1, "Regression analysis").

The lagged analyses revealed that earlier partner behavioral affirmation and earlier partner perceptual affirmation exhibited significant simple associations with later self movement toward the ideal self (see Table 2, "Movement-toward-ideal hypothesis," Model 2, "Simple association"). Unfortunately, when both model variables were included in a simultaneous regression analysis, the coefficients for both variables declined to nonsignificance (see Table 2, Model 2, "Regression analysis"). It is possible that there was not a good deal of change in movement toward the ideal self, such that when two predictors were included in the residualized lagged analysis, there was insufficient variance to obtain reliable estimates of associations with the presumed proximal and distal predictors. The results of the lagged mediation analyses were inconclusive, but the results of the concurrent mediation analyses are compatible with the assertion that perceived partner behavioral affirmation wholly mediates the association of perceived partner perceptual affirmation with self movement toward the ideal self. In addition, these findings help demonstrate the independence of the perceptual affirmation and behavioral affirmation constructs.

Mediation of couple well-being. We predicted that although self movement toward the ideal self, behavioral affirmation, and perceptual affirmation would exhibit simple associations with couple well-being, the presumed proximal predictor (movement toward ideal) would partially or wholly mediate associations with the presumed distal predictors (behavioral affirmation and perceptual affirmation). The concurrent analyses revealed that all three model variables exhibited significant simple associations with dyadic adjustment (see Table 1, "Couple well-being hypothesis," Model 2, "Simple association"). Inconsistent with expectations, when all three model variables were included in a simultaneous regression analysis, the coefficient for behavioral affirmation remained strong, whereas the coefficients for self movement toward the ideal self and perceptual affirmation declined to nonsignificance (see Table 1, Model 2, "Regression analysis"). That is, self movement toward the ideal self not only failed to account for the association of behavioral affirmation with couple well-being, but when behavioral affirmation was included in a multiple-predictor model, the association of movement toward ideal with couple well-being actually declined to nonsignificance.

The lagged analyses revealed that earlier measures of all three model variables exhibited simple associations with later dyadic adjustment (see Table 2, "Couple well-being hypothesis," Model 2, "Simple association"). When all three variables were included in a regression analysis, all three coefficients declined to nonsignificance (see Table 2, "Regression analysis"). Once again, it is possible that there was not a good deal of change in couple well-being, such that when three model variables were included in the residualized lagged analysis, there was insufficient variance to obtain reliable estimates of associations with the presumed proximal and distal predictors.

In light of the strength of partner behavioral affirmation in predicting concurrent couple well-being, we performed two additional exploratory analyses: First, the results of a residualized lagged regression analysis revealed that earlier partner behavioral affirmation accounted for significant change over time in dyadic adjustment (see Table 2, Model 3). Second, given that both partners provided measures of dyadic adjustment, we were able to perform pooled concurrent across-partner analyses relevant to assessing the association of behavioral affirmation with couple wellbeing. These analyses revealed that the male partner's report of partner behavioral affirmation was significantly associated with the female partner's report of dyadic adjustment (r = .43, p < .05); a parallel association was evident among the women (r = .23, p < .05). Thus, partner behavioral affirmation exhibits fairly reliable simple associations with couple well-being.

Taken as a whole, the analyses relevant to assessing the mediation of couple well-being suggest that self movement toward the ideal self does not mediate the association of partner behavioral affirmation with couple well-being. The results of the lagged mediation analyses were inconclusive, but the results of the concurrent mediation analyses are compatible with the claim that in understanding couple well-being, partner behavioral affirmation may be as important (perhaps even more important) than self movement toward the ideal self. That is, it may be critical that the partner behave in such a manner as to bring about movement toward the self's ideal over the long run.

Mutuality of partner affirmation and movement toward the ideal self. We performed exploratory analyses to determine whether partners experience mutuality in perceived partner perceptual affirmation, perceived partner behavioral affirmation, and self movement toward the ideal self. Pooled concurrent across-partner analyses revealed that partners exhibited significant mutuality with respect to all three processes: Reports from male and female partners were significantly associated for partner perceptual affirmation (r = .26), partner behavioral affirmation (r = .28), and self movement toward the ideal self (r = .28, all ps < .05). Thus, the benefits that are perceived to be received from a partner tend to be weakly commensurate with those perceived to be received by the partner.

# Discussion

The results of Study 1 provide moderately good support for our model of the Michelangelo phenomenon. First, and consistent with the partner affirmation hypothesis, when a partner is believed to perceive the self in a manner that is congruent with the ideal self, the partner is also perceived to behave toward the self in a manner that is congruent with the ideal self (i.e., ideal sculptor vision yields ideal sculpting). This prediction was supported in concurrent analyses; the results of analyses examining change over time in perceived partner behavior were inconclusive.

Second, and consistent with the movement-toward-ideal hypothesis, when a partner is perceived to behave toward the self in a manner that is congruent with the ideal self, the self experiences greater movement toward the ideal self (i.e., ideal sculpting yields ideal sculpture). This prediction was supported in concurrent and residualized lagged analyses (the latter association was marginal), as well as in across-partner analyses. The results of residualized lagged mediation analyses were inconclusive, but concurrent mediation analyses suggested that the association of perceived partner perceptual affirmation with self movement toward ideal is wholly mediated by perceived partner behavioral affirmation (i.e., the key to ideal sculpture is ideal sculpting, not ideal sculptor vision).

Third, and consistent with the couple well-being hypothesis, when the self experiences greater movement toward the ideal self, couple well-being is enhanced (i.e., ideal sculpture yields couple health). This prediction was supported in concurrent and residualized lagged analyses (the latter association was marginal), as well as in across-partner analyses. However, mediation analyses suggested that the association of model variables with couple wellbeing is not mediated by self movement toward the ideal self. Concurrent mediation analyses revealed evidence that perceived partner behavioral affirmation accounts for unique variance beyond self movement toward ideal (i.e., ideal sculpting may be as beneficial as ideal sculpture). Indeed, it appears that self movement toward the ideal self may not account for unique variance beyond partner behavioral affirmation. Thus, the results of Study 1 (a) begin to demonstrate the independence of the constructs composing the Michelangelo phenomenon and (b) suggest that it may be appropriate to modify the Figure 1 model to include direct links of partner behavioral affirmation not only with self movement toward the ideal self but also with couple well-being. We await the findings of Studies 2 through 4 to evaluate the appropriateness of such a modification.

#### Study 2

Study 2 was designed to demonstrate that the Michelangelo phenomenon represents more than a simple perceptual artifact—to demonstrate that this phenomenon to some degree reflects real circumstances of interdependence in ongoing relationships. Study 2 was a two-wave longitudinal study in which descriptions of participants' dating relationships from the point of view of both participants and their same-sex friends were obtained. At Time 1 participants and friends completed questionnaires describing the participant's dating relationship; at Time 2 participants and friends completed telephone interviews during which both persons described the then-current status of the participant's relationship. In Study 2 analyses we used participants' data as criteria, and friends' data were used as predictor variables (auxiliary analyses examined other combinations of participant and friend criteria and predictors).

At Time 1 participants and friends provided measures of all constructs assessed in Study 1, as well as behavioral verification and socially desirable response tendencies; at Time 1 participants provided measures of self-esteem. At Time 2 both participants and friends provided measures of the relationship status (ended vs. persisted), dyadic adjustment, and self movement toward the ideal self. Accordingly, in Study 2 we replicated Study 1 by (a) assessing the simple links among model variables and (b) assessing patterns of mediation. In addition, we assessed the validity of the affirmation construct by (c) determining whether behavioral affirmation or behavioral verification better predicts well-being and (d) determining whether self-esteem mediates or moderates associations with behavioral affirmation. Finally, we examined the associations of model variables with socially desirable responding and assessed the test-retest reliability and across-friend validity of our findings.

# Method

*Participants.* Two hundred eighteen individuals (138 women, 80 men) took part in the study on a voluntary basis or in partial fulfillment of the requirements for introductory psychology courses at the University of North Carolina at Chapel Hill. Sign-up sheets for the study listed two participation requirements. First, individuals had to be involved in a dating relationship of at least 2 weeks in duration. Second, participants were asked to bring a same-sex friend with them to the research session. We obtained

data from 69 female participants and their 69 female friends, along with data from 40 male participants and their 40 male friends, for a total of 218 individuals (109 participants, 109 friends). If both the participant and the friend were enrolled in introductory psychology courses, both received partial course credit; otherwise, individuals participated on a voluntary basis.

At Time 1 participants and friends were 18.83 years old on average, and most were freshmen or sophomores (51% freshmen, 31% sophomores, 14% juniors, 4% seniors). The majority were Caucasian (12% African American, 3% Asian American, 81% Caucasian, 2% Latino, 2% other). At Time 1 participants had been involved with their dating partners for an average of 19.17 months. Most participants described their involvements as steady dating relationships (18% dating casually, 13% dating regularly, 62% dating steadily, 7% engaged or married), and most described their relationships as monogamous (72% said neither partner dated others, 10% said one partner dated others, 18% said both dated others). At Time 1 participants had been involved with their friends for an average of 33.38 months; most friendships preceded participants' involvement with their dating partners. Most participants and friends described their friendships as good friends or best friends (2% acquaintances, 14% casual friends, 56% good friends, 28% best friends).

*Procedure.* Two to 20 individuals attended each research session. The experimenter explained that participants and their friends would be asked to complete a questionnaire describing the participant's dating relationship. In a few instances participants were involved in more than one dating relationship; they were asked to specify to the friend which relationship they would describe. Participants and friends were separated so they could not view one another's responses while completing their questionnaires. At the end of the session participants and friends were asked whether they would take part in a telephone interview several months later. If they were willing to do so, they listed their telephone numbers along with the name or initials of the dating partner described in the questionnaire. Participants and friends were then partially debriefed and thanked for their assistance.

Eighty-five percent of the participants and friends agreed to take part in Time 2 telephone interviews. To maximize the odds of detecting breakups, we began Time 2 interviews 2 months later, following winter break (among college students, a greater than average number of breakups occur during academic breaks; cf. Hill, Rubin, & Peplau, 1976). We tried to contact individuals on as many as 10 occasions, continuing to telephone each person until (a) the interview was completed or (b) after 10 attempts, we failed to complete the interview. On average, Time 2 interviews were conducted 12.22 weeks following the Time 1 session; we completed interviews with 179 individuals. By Time 2, 47 of the relationships had persisted and 30 had ended. After completing the interviews we mailed full debriefing information to all participants and friends.

Time 1 questionnaires. Participant and friend questionnaires were parallel except that participants described their own dating relationships whereas friends described participants' dating relationships. For example, a participant item read, "My partner regards me as the sort of person I would most like to become." The parallel friend item (version for men) read, "His partner regards him as the sort of person he would most like to become." Items measuring partner perceptual affirmation and partner behavioral affirmation were the same as those used in Study 1. We developed three additional items to measure partner behavioral verification ("My partner treats me in a way that allows me to display my true traits and dispositions"; "My partner helps me be myself-he/she elicits the 'real me' "; "Because of the way my partner acts with me, I am able to be my true self'; for each item, 0 = do not agree at all, 8 = agree completely). Items measuring self movement toward the ideal self were the same as those used in Study 1. As in Study 1, couple well-being was measured using a version of the Dyadic Adjustment Scale suitable for dating relationships (Spanier, 1976). Time 1 questionnaires also included the 40-item Balanced Inventory of Desirable Responding, which measures selfdeception and impression management (Paulhus, 1984; e.g., "I never cover up my mistakes"; for each item, 0 = not true, 8 = very true). In participants' Time 1 questionnaires self-esteem was measured using Hoyle's (1991) 25-item instrument, which measures general self-esteem as well as social, physical, task, and public self-esteem (e.g., "I usually expect to succeed at the things I do"; for each item, 0 = not at all like me, 8 = very much like me).

Time 2 interviews. Time 2 telephone interviews were conducted by trained undergraduate research assistants. In these interviews, both participants and friends described the participant's Time 1 dating relationship. Versions of the interview developed for participants and friends were parallel except for suitable changes in wording. The interviewer reminded the individual of Time 1 activities, providing the name or initials of the participant's Time 1 partner and asking, "Are you still dating this person?" The interviewer then said, "Now I'm going to ask you five questions about your relationship." If the relationship had ended, the interviewer added "Please rate how you felt at about the middle of the relationship, following the Time 1 session." The five items tapped representative qualities measured by the Dyadic Adjustment Scale (e.g., "How often do/did you think things are/were going well between you and your partner? Do/did you think that things are/were going well all the time, more often than not, or rarely?" 0 = rarely, 1 = more often than not, 2 = all the time). We also measured self movement toward the ideal self. The interviewer said, "I'm going to read a list of four characteristics. For each characteristic, I'd like you to tell me whether-as a result of being involved with your partneryou have become [became] more like this, did not change, or have become [became] less like this." The interviewer inquired about each of the four qualities the participant listed as the most important characteristics of his or her ideal self in the Time 1 questionnaire (-1 = became less like this, 0 =no change, 1 = became more like this). Both participants and friends were provided with the participant's Time 1 characteristics of the ideal self.

# Results

Reliability and validity of measures. Reliability analyses revealed adequate coefficients for all Time 1 measures, among both participants and friends, respectively: partner perceptual affirmation ( $\alpha s = .81$  and .87), partner behavioral affirmation ( $\alpha s = .84$ and .84), self movement toward the ideal self ( $\alpha s = .51$  and .70), dyadic adjustment ( $\alpha s = .91$  and .91), partner behavioral verification ( $\alpha s = .91$  and .89), self-deception ( $\alpha s = .58$  and .60), and impression management ( $\alpha s = .68$  and .66), as well as for participants' reports of self-esteem (.92). Generally adequate coefficients were also revealed for Time 2 measures of self movement toward the ideal self ( $\alpha s = .55$  and .44) and dyadic adjustment ( $\alpha s = .71$  and .66). Accordingly, we averaged the items designed to assess each variable to develop a single measure of each construct for each participant and friend. Although we used different instruments to obtain Time 1 and Time 2 measures of self movement toward the ideal self and dyadic adjustment (e.g., Time 2 instruments were briefer), test-retest correlations for these constructs were acceptable: Time 1 and Time 2 measures were significantly correlated for both self movement toward the ideal self (r = .49) and dyadic adjustment (r = .58, both ps < .01). At Time 1 we obtained measures of self-deception and impression management. Correlational analyses revealed generally negligible associations of these variables with Time 1 and Time 2 measures (average r = .08; rs ranged from -.03 to .21). Only two associations were noteworthy: The Time 1 and Time 2 measures of dyadic adjustment were significantly correlated with impression management (rs = .21 and .20, respectively, both ps < .05). To determine whether participants and their friends agreed in their descriptions of the participant's dating relationship, we calculated correlations between participants' and friends' reports of parallel constructs. These across-friend analyses revealed relatively good convergence for all Time 1 and Time 2 measures (average r = .45; rs ranged from .28 to .79, all ps < .05).

Analysis strategy. One goal of Study 2 was to demonstrate that the Michelangelo phenomenon, to some degree, reflects real circumstances of interdependence. To ensure that the observed links among variables were not an artifact of participants' tendencies to describe themselves in a consistent or desirable manner, we report two types of regression analyses: (a) within-participant analyses, in which participants' criteria were regressed onto participants' predictors, and (b) participant-friend analyses, in which participants' criteria were regressed onto friends' predictors. We performed two additional types of analyses that are not presented in the tables: (c) within-friend analyses, in which friends' criteria were regressed onto friends' predictors, and (d) friend-participant analyses, in which friends' criteria were regressed onto participants' predictors. It is reassuring to note that the four types of analyses revealed generally supportive findings: In parallel tests of the simple associations predicted in the partner affirmation, movement-towardideal, and couple well-being hypotheses (a) five of six associations were significant in within-participant analyses, (b) four of six associations were significant in participant-friend analyses, (c) four of six associations were significant in within-friend analyses, and (d) four of six associations were significant in friendparticipant analyses.

Parallel to the Study 1 analysis strategy, all analyses included the main effect of sex, the main effect of one or more model variables, and the interaction of sex with each model variable. All variables were centered. Table 3 summarizes findings from concurrent analyses, and Table 4 summarizes findings from residualized lagged analyses. As in Study 1, in addition to examining the association of each criterion with its presumed proximal predictor (see Model 1 in Tables 3 and 4), we also performed mediation analyses to examine the association of each criterion with its presumed proximal and distal predictors (see Model 1 in Tables 3 and 4). To facilitate interpretation of regression results (see "Regression analysis" in Tables 3 and 4), when a given analysis includes two or more model variables we also present the simple association of each variable with the criterion (see "Simple association" in Tables 3 and 4). The simple association reflects the association of a variable with the criterion in an analysis that takes into account variance attributable to sex and interactions with sex. Thus, all statistics presented in Tables 3 and 4 are based on analyses that included sex main effects and interactions. However, in the 54 analyses summarized in Tables 3 and 4, no main effects of sex were significant, and only 2 of 54 interactions with sex were significant. Given that this number of significant effects might be observed by chance, effects involving sex will not be discussed in the following summary.

# Table 3

Concurren	t Regression 1	Analyses Pred	licting Perceived	l Partner Behav	ioral Affirmation, S	Self
Movement	Toward the Id	deal Self, and	Couple Well-Be	eing: Study 2		

	Simple association		Regression analysis		
Criterion	β	t	β	t	R <sup>2</sup>
Partner affirm	ation hyp	othesis			
Time 1 partner behavioral affirmation					
Within-participant analyses					
Model 1					
Time 1 partner perceptual affirmation	—		.82	13.91**	.67**
Participant-friend analyses					
Model I			24	0.50**	1 4 14 14
Time I partner perceptual affirmation			.36	3.53**	.14**
Movement-towar	d-ideal h	ypothesis			
Time 1 self movement toward the ideal self					
Within-participant analyses					
Model 1					
Time 1 partner behavioral affirmation	_	_	.47	5.31**	.24**
Model 2					
Time 1 partner behavioral affirmation	.47	5.31**	.72	4.80**	.27**
Time 1 partner perceptual affirmation	.28	2.85**	31	-2.04*	
Participant-friend analyses					
Model 1					
Time 1 partner behavioral affirmation			.29	2.85*	.10*
Model 2					
Time 1 partner behavioral affirmation	.29	2.85**	.26	1.78*	.10†
Time 1 partner perceptual affirmation	.23	2.03*	.04	0.24	
Couple well-being hypothesis: Pr	edicting 7	Time 1 dyadi	c adjustme	nt	
Time 1 dyadic adjustment		<b>4</b> .2			
Within-participant analyses					
Model 1					
Time 1 self movement toward the ideal self		—	.46	4.76**	.21**
Model 2					
Time 1 self movement toward the ideal self	.46	4.76**	.26	2.53**	.38**
Time 1 partner behavioral affirmation	.54	6.13**	.51	2.94**	
Time 1 partner perceptual affirmation	.37	3.65**	13	-0.82	
Participant-friend analyses					
Model 1					
Time 1 self movement toward the ideal self	—	—	.01	0.13	.04
Model 2					
Time 1 self movement toward the ideal self	.01	0.13	21	$-1.32^{+}$	.29**
Time 1 partner behavioral affirmation	.41	3.66**	.61	3.63**	
Time 1 partner perceptual affirmation	.26	2.23*	.03	0.30	

Note. In addition to the variables listed above, all analyses also included the main effect of gender as well as interactions of gender with each model variable. A dash indicates models for the simple association and for regression analyses are identical. For t values, numerator df = 1; denominator df varied from 87 to 104. p < .10 (marginally significant). p < .05. p < .01.

and .36, respectively; both ps < .01). (We do not report residualized lagged analyses because these constructs were measured only at Time 1.)

Movement-toward-ideal hypothesis. The movement-towardideal hypothesis suggested that partner behavior perceived to be congruent with the ideal self would be associated with greater self movement toward the ideal self. Consistent with expectations, the concurrent analyses revealed that partner behavioral affirmation was positively associated with self movement toward the ideal self in both within-participant and participant-friend analyses (see Table 3, "Movement-toward-ideal hypothesis," Model 1). The lagged analyses revealed that the simple association of Time 1 partner behavioral affirmation with Time 2 self movement toward the ideal self was significant in both within-participant and participant-friend analyses (see Table 4, Model 1, "Simple association"). In the residualized lagged regression analyses, this association was significant in the participant-friend analysis but not in the within-participant analysis (see Table 4, Model 1, "Regression analysis"). Thus, the movement-toward-ideal hypothesis received moderate support.

Couple well-being hypothesis. The couple well-being hypothesis suggested that movement toward ideal would yield enhanced

	S ass	imple ociation	Re	Regression analysi	
Criterion	β	t	β	t	$R^2$
Movement-toward	d-ideal h	ypothesis			
Time 2 self movement toward the ideal self					
Within-participant analyses					
Time 1 norther behavioral offirmation	24	2 10*	06	0.40	17**
Time 1 self movement toward the ideal self	.40	4.03**	.35	3.17**	.17**
Time 1 partner behavioral affirmation	24	2 10*	05	0.26	18**
Time 1 partner percentual affirmation	.24	0.90	- 03	-0.15	.10
Time 1 self movement toward the ideal self	40	4.03**	38	317**	
Participant_friend analyses	.+0	4.00	.50	5.17	
Model 1					
Time 1 partner behavioral affirmation	.32	2.73**	.28	2.12*	.13*
Time 1 self movement toward the ideal self	.18	1.66†	.07	0.63	120
Model 2		21001			
Time 1 partner behavioral affirmation	.32	2.73**	.39	2.17*	.17*
Time 1 partner perceptual affirmation	.20	1.74*	02	-0.11	
Time 1 self movement toward the ideal self	.18	1.66†	02	-0.15	
Couple well-being hypothesis: Pre	dicting '	Time 2 dyadic	adjustme	nt	
Time 2 dvadic adjustment					
Within-participant analyses					
Model 1					
Time 1 self movement toward the ideal self	.42	4.28**	.26	2.44**	.36**
Time 1 dvadic adjustment	.58	5.84**	.46	4.56**	
Model 2		0.0			
Time 1 self movement toward the ideal self	.42	4.28**	.26	2.19*	.37**
Time 1 partner behavioral affirmation	.35	3.16**	.07	0.37	
Time 1 partner perceptual affirmation	.18	-1.48†	13	-0.73	
Time 1 dvadic adjustment	.58	5.84**	.45	3.96**	
Model 3					
Time 1 partner behavioral affirmation	.35	3.16**	.05	0.46	.32**
Time 1 dyadic adjustment	.58	5.84**	.56	5.17**	
Participant-friend analyses					
Model 1					
Time 1 self movement toward the ideal self	.10	0.88	09	-0.66	.13*
Time 1 dyadic adjustment	.32	2.56**	.36	3.13**	
Model 2					
Time 1 self movement toward the ideal self	.10	0.88	10	-0.65	.20*
Time 1 partner behavioral affirmation	.34	2.96**	.36	1.86*	
Time 1 partner perceptual affirmation	.16	1.46†	13	-0.74	
Time 1 dyadic adjustment	.32	2.56**	.19	1.29†	
Model 3					
Time 1 partner behavioral affirmation	.34	2.96**	.25	1.53†	.17*
Time 1 dyadic adjustment	.32	2.56**	.15	1.07	

# Table 4 Residualized Lagged Regression Analyses Predicting Self Movement Toward the Ideal Self and Couple Well-Being: Study 2

Couple well-being hypothesis: Predicting Time 2 relationship status

Time 2 relationship status					
Within-participant analyses					
Model 1					
Time 1 self movement toward the ideal self		—	.32	3.10**	.10
Model 2					
Time 1 self movement toward the ideal self	.32	3.10**	.22	1.83*	.16
Time 1 partner behavioral affirmation	.26	2.36**	.34	1.76*	
Time 1 partner perceptual affirmation	.08	0.67	24	-1.39†	
Participant-friend analyses					
Model 1					
Time 1 self movement toward the ideal self	·		.19	1.77*	.03
Model 2					
Time 1 self movement toward the ideal self	.19	1.77*	.11	0.76	.10
Time 1 partner behavioral affirmation	.26	2.19*	.10	0.52	
Time 1 partner perceptual affirmation	.23	2.01*	.12	0.72	

Note. In addition to the variables listed above, all analyses also included the main effect of gender as well as interactions of gender with each model variable. A dash indicates models for the simple association and for regression analyses are identical. For t values, numerator df = 1; denominator df varied from 66 to 99. † p < .10 (marginally significant). \* p < .05. \*\* p < .01.

couple well-being. Consistent with expectations, the concurrent analyses revealed that Time 1 self movement toward the ideal self was positively associated with Time 1 dyadic adjustment in the within-participant analysis; however, this association was nonsignificant in the participant-friend analysis (see Table 3, "Couple well-being hypothesis: Predicting Time 1 dyadic adjustment," Model 1). The lagged analyses revealed that the simple association of Time 1 self movement toward the ideal self with Time 2 adjustment was significant in the within-participant analysis but not in the participant-friend analysis (see Table 4, "Couple wellbeing hypothesis: Predicting Time 2 dyadic adjustment," Model 1, "Simple association"). This association was also significant in the within-participant residualized lagged regression analysis but not in the parallel participant-friend analysis (see Table 4, Model 1, "Regression analysis"). In addition, the lagged analyses revealed that the association of Time 1 self movement toward the ideal self with Time 2 relationship status (ended vs. persisted) was significant in both the within-participant and the participant-friend analyses (see Table 4, "Couple well-being hypothesis: Predicting Time 2 relationship status," Model 1).<sup>5</sup> (Note that the analyses predicting Time 2 status do not include Time 1 status as a predictor because Time 1 status is a constant-at Time 1, all relationships were noted to have persisted status.) It is possible that the friend's report of Time 1 self movement toward the ideal self was a weak predictor of couple well-being because at Time 1 the friend and participant described somewhat different features of the participant's ideal self (the participant and friend independently identified important qualities of the participant's ideal self).

During the Time 2 telephone interviews we obtained measures of self movement toward the ideal self, dyadic adjustment, and relationship status. Concurrent analyses paralleling those presented in Table 3 revealed that Time 2 self movement toward the ideal self was positively associated with Time 2 dyadic adjustment in the within-participant analysis ( $\beta = .45$ , p < .01) but not in the participant-friend analysis ( $\beta = .17$ , ns). In addition, Time 2 self movement toward the ideal self was positively associated with Time 2 relationship status in both the within-participant and participant-friend analyses ( $\beta s = .33$  and .19, respectively; both ps < .05). Thus, the couple well-being hypothesis received moderate support.

Mediation of movement toward ideal. We predicted that although both partner behavioral affirmation and partner perceptual affirmation would exhibit simple associations with self movement toward the ideal self, behavioral affirmation would partially or wholly mediate the association with perceptual affirmation. Consistent with the logic of mediation, the concurrent analyses revealed that although both behavioral affirmation and perceptual affirmation exhibited simple associations with self movement toward the ideal self (see Table 3, Model 2, "Simple association"), when both model variables were included in a simultaneous regression analysis, the coefficient for behavioral affirmation (the presumed proximal predictor) remained strong, whereas the coefficient for perceptual affirmation (the presumed distal predictor) declined substantially (see Table 3, Model 2, "Regression analysis"; in the within-participant analysis the coefficient for perceptual affirmation was significantly negative because of suppression; cf. Cohen & Cohen, 1975).

The lagged analyses revealed that Time 1 behavioral affirmation was associated with Time 2 self movement toward the ideal self in both the within-participant and participant-friend analyses; Time 1 perceptual affirmation was associated with Time 2 self movement toward the ideal self in the participant-friend analysis but not in the within-participant analysis (see Table 4, Model 2, "Simple association"). In the within-participant analyses, when both model variables were included in a simultaneous regression analysis, the coefficients were nonsignificant for both model variables (see Table 4, Model 2, "Regression analysis," but note that the coefficient for Time 1 behavioral affirmation was nonsignificant in Model 1 as well). In the participant-friend analyses, when both model variables were included in a simultaneous regression analysis, the coefficient for Time 1 behavioral affirmation remained strong, whereas the coefficient for Time 1 perceptual affirmation declined to nonsignificance (see Table 4, "Regression analysis"). Thus, the concurrent analyses revealed good support for our assertions regarding the mediation of movement toward ideal; our assertions received mixed support in the residualized lagged analyses.

Mediation of couple well-being. We predicted that although movement toward ideal, behavioral affirmation, and perceptual affirmation would exhibit simple associations with couple wellbeing, self movement toward the ideal self would partially or wholly mediate the associations of the presumed distal predictors with couple well-being. The concurrent analyses predicting dyadic adjustment revealed that in both the within-participant and acrossfriend analyses, dyadic adjustment exhibited significant simple associations with behavioral affirmation and perceptual affirmation; in the within-participant analysis the simple association was significant for self movement toward the ideal self (see Table 3, Model 2, "Simple association"). When we regressed dyadic adjustment simultaneously onto all three model variables, coefficients remained relatively strong for behavioral affirmation and self movement toward the ideal self in the within-participant analysis, and the coefficient remained strong for behavioral affirmation in the participant-friend analysis (see Table 3, Model 2, "Regression analysis"; in the participant-friend analysis the coefficient for movement was marginally negative because of suppression). Thus, and consistent with Study 1, the concurrent analyses suggest that behavioral affirmation accounts for significant variance in couple well-being beyond self movement toward the ideal self.

The lagged analyses revealed that Time 1 self movement toward the ideal self, behavioral affirmation, and perceptual affirmation generally exhibited significant or marginal simple associations with Time 2 dyadic adjustment (see Table 4, "Couple well-being hypothesis: Predicting Time 2 dyadic adjustment," Model 2, "Simple association"; in the participant-friend analyses the coefficient for movement toward ideal was nonsignificant). Consistent with expectations, in the within-participant analysis, when we regressed

 $<sup>^{5}</sup>$  Given that later relationship status is a dichotomous measure (ended vs. persisted), it might be more appropriate to perform logistic regression analyses to assess associations with this criterion. However, we performed regression analyses because (a) this sort of analysis is appropriate given that the proportion of observations in the persisted versus ended categories was approximately 3 to 2 (47 to 30; cf. Tabachnick & Fidell, 1996), and (b) we wished to perform these analyses in such a manner as to parallel the analyses for other criteria.

Time 2 dyadic adjustment onto all three model variables, the coefficient for Time 1 self movement toward the ideal self remained strong, whereas the coefficients for behavioral affirmation and perceptual affirmation declined to nonsignificance (see Table 4, Model 2, "Regression analysis"). However, as has been observed in several previous analyses, in the participant-friend analysis, when we regressed Time 2 dyadic adjustment onto all three model variables, the coefficient for Time 1 behavioral affirmation remained strong, whereas the coefficients for self movement toward the ideal self and perceptual affirmation declined to nonsignificance (see Table 4, Model 2, "Regression analysis"). (We also performed residualized lagged analyses including behavioral affirmation as the sole model variable and found that Time 1 behavioral affirmation predicted marginal change over time in dyadic adjustment in the participant-friend analysis but not in the within-participant analysis; see Model 3.) Thus, these analyses revealed mixed evidence regarding the mediation of associations with change in dyadic adjustment by earlier movement toward the ideal self.

The lagged analyses revealed that Time 1 self movement toward the ideal self, partner behavioral affirmation, and partner perceptual affirmation generally exhibited significant simple associations with Time 2 relationship status (see Table 4, "Couple well-being hypothesis: Predicting Time 2 relationship status," Model 2, "Simple association"; in the within-participant analyses the coefficient for perceptual affirmation was nonsignificant). In the withinparticipant analysis, when we regressed Time 2 relationship status onto all three model variables, coefficients for Time 1 self movement toward the ideal self and behavioral affirmation remained strong (see Table 4, Model 2, "Regression analysis"; the coefficient for perceptual affirmation was marginally negative because of suppression). In the participant-friend analysis, when we regressed Time 2 status onto all three model variables, all three coefficients declined to nonsignificance (see Table 4, Model 2, "Regression analysis").

Taken as a whole, the analyses relevant to assessing the mediation of couple well-being suggest that self movement toward the ideal self may not wholly mediate the association of partner behavioral affirmation with couple well-being; in four of six instances, coefficients for behavioral affirmation remained strong even when variance attributable to movement toward the ideal self was taken into consideration. Indeed, three of six analyses revealed that when variance attributable to partner behavioral affirmation was taken into consideration, coefficients for self movement toward the ideal self declined substantially.

Partner affirmation versus partner verification. To evaluate the validity of the partner affirmation construct in comparison with alternative explanations of personal and couple well-being, we obtained measures of both partner behavioral affirmation and partner behavioral verification. As can be seen in Table 5, behavioral affirmation and behavioral verification exhibited significant concurrent simple associations with both self movement toward the ideal self and dyadic adjustment (see Table 5, "Simple association"). To pit affirmation and verification against one another, we regressed each criterion simultaneously onto behavioral affirmation and behavioral verification (along with main effects and interactions involving sex). In predicting self movement toward the ideal self, the coefficient for behavioral affirmation remained strong in both the within-participant and participant-friend analyses; the coefficient for behavioral verification remained strong in

Table 5

Concurrent Regression Analyses	Examining	Partner	Affirmation	and
Partner Verification: Study 2				

	S ass	imple ociation	F	egression analy	/sis
Criterion	β	t	β	t	$R^2$
Predicting self	movement	toward the idea	l self		
Time 1 self movement toward the ideal self Within-participant analyses					
Time 1 partner behavioral affirmation	.47	5.31**	.28	2.11*	.27**
Time 1 partner behavioral verification	.47	5.13**	.26	1.87*	
Participant-friend analyses					
Time 1 partner behavioral affirmation	.29	2.85**	.26	1.94*	.12*
Time 1 partner behavioral verification	.21	2.02*	.09	0.57	
Predict	ting dyadic	adjustment			
Time 1 dyadic adjustment					
Within-participant analyses					
Time 1 partner behavioral affirmation	.54	6.13**	.28	2.21*	.41**
Time 1 partner behavioral verification	.57	6.53**	.35	2.57**	
Participant-friend analyses					
Time 1 partner behavioral affirmation	.41	3.66**	.48	2.73**	.21**
Time 1 partner behavioral verification	.27	2.52**	08	-0.51	

*Note.* In addition to the variables listed above, all analyses also included the main effect of gender as well as interactions of gender with each model variable. For t values, numerator df = 1; denominator df varied from 88 to 100.

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

the within-participant analysis but not in the participant-friend analysis (see Table 5, "Regression analysis"). In a like manner, in predicting dyadic adjustment, the coefficient for behavioral affirmation remained strong in both the within-participant and participant-friend analyses; the coefficient for behavioral verification remained strong in the within-participant analysis but not in the participant-friend analysis (see Table 5, "Regression analysis"). These findings are consistent with expectations, demonstrating that partner affirmation consistently accounts for unique variance in model variables above and beyond variance attributable to partner verification. Interestingly, the within-participant analyses also revealed some evidence of the benefits of verification above and beyond affirmation.

Mediation and moderation of affirmation effects by participant self-esteem hypothesis. As noted earlier, models set up so that verification resides at the heart of well-being suggest that partner positivity yields good consequences for individuals with high self-esteem but yields poor consequences for individuals with low self-esteem. Our measures of affirmation do not tap simple partner positivity, in that they assess congruence with the self's ideal. Nevertheless, following a line of speculation paralleling the verification point of view, one could reason that partner affirmation might be positively linked with personal and couple well-being among persons with high self-esteem but negatively linked with personal and couple well-being among those with low self-esteem. We performed a series of within-participant analyses to explore this line of reasoning, predicting that affirmation would exhibit positive links with well-being irrespective of participant self-esteem.

We regressed Time 1 self movement toward the ideal self onto Time 1 behavioral affirmation, self-esteem, and the Self-Esteem  $\times$ Behavioral Affirmation interaction (along with the main effect of sex and interactions of sex with all model variables). Consistent with the results displayed in Table 3, this analysis revealed a significant main effect of behavioral affirmation, t(1, 95) = 3.61, p < .01; however, the main effect of self-esteem and the Self-Esteem × Behavioral Affirmation interaction were nonsignificant, ts = -0.78 and 0.65, respectively; both ns. In parallel manner, a regression of Time 1 dyadic adjustment onto Time 1 behavioral affirmation, self-esteem, and the Self-Esteem × Behavioral Affirmation interaction revealed a significant main effect of behavioral affirmation, t(1, 87) = 5.55, p < .01; however, the main effect of self-esteem and the Self-Esteem × Behavioral Affirmation interaction were nonsignificant, ts(1, 87) = 0.58 and -0.74, respectively; both ns. (We also replicated these analyses using a median split of participants into low vs. high self-esteem groups and obtained parallel results: No main effects or interactions involving self-esteem were significant.) Thus, the associations of model variables with behavioral affirmation do not appear to be substantially mediated or moderated by participant self-esteem.

# Discussion

The results of Study 2 provide moderately good support for our model in analyses using both participant data and friend data as predictor variables. Consistent with the partner affirmation hypothesis, when a partner is believed to perceive the self in a manner that is congruent with the ideal self, the partner is also perceived to behave toward the self in a manner that is congruent with the ideal self (i.e., ideal sculptor vision yields ideal sculpting). Consistent with the movement-toward-ideal hypothesis, when a partner is perceived to behave toward the self in a manner that is congruent with the ideal self, the self generally experiences greater movement toward the ideal self (i.e., ideal sculpting yields ideal sculpture; this prediction was supported in three of four analyses). Mediation analyses generally revealed that the association of partner perceptual affirmation with self movement toward ideal is mediated by partner behavioral affirmation (i.e., the key to ideal sculpture is ideal sculpting, not ideal sculptor vision). Also, consistent with the couple well-being hypothesis, self movement toward the ideal self typically is associated with couple well-being (i.e., ideal sculpture yields couple health). However, mediation analyses suggested that self movement toward the ideal self may not wholly mediate the association of partner behavioral affirmation with couple well-being. Indeed, consistent with the results of Study 1, we observed some evidence that when variance attributable to partner behavioral affirmation is taken into consideration, self movement toward the ideal self may not account for unique variance in couple well-being (i.e., ideal sculpting may be as beneficial or more beneficial than ideal sculpture). As in Study 1, the Study 2 analyses help to demonstrate the independence of our constructs and suggest that it may be appropriate to modify the Figure 1 model to include direct links of partner behavioral affirmation not only with self movement toward the ideal self but also with couple well-being. Moreover, Study 2 analyses revealed that partner affirmation accounts for unique variance in self movement toward the ideal self and in couple well-being beyond partner verification. Additional analyses revealed that associations with partner affirmation are not substantially mediated nor moderated by participant self-esteem. Finally, the results of Study 2 suggest that the Michelangelo phenomenon is not a simple product of the self's perceptual system, in that the phenomenon appears to be observable by both the self and by close friends.

# Study 3

The results of Studies 1 and 2 rest on relatively direct self-report (or friend-report) measures of model variables. In Study 3 we sought to rule out common method variance as an explanation of our findings by adopting a more indirect means of measuring model variables, using a method that was developed to study partner similarity to the ideal self (LaPrelle et al., 1990). In Study 3 dating partners used 25 bipolar scales to describe their ideal selves, the partner's perceptions of the self, and the partner's behavior toward the self (along with other instructional sets). We used these data to construct within-participant correlational measures of key model variables. For example, we measured partner behavioral affirmation by calculating the correlation between a given participant's (a) scores for the 25 items tapping the ideal self and (b) scores for the 25 items tapping the partner's behavior toward the self. This score reflects the degree to which the partner's behavior toward the self is aligned with the self's ideal. In addition, we obtained data that enabled us to measure partner verification and partner enhancement, and participants provided measures of dyadic adjustment and socially desirable response tendencies. Accordingly, in Study 3 we replicated Studies 1 and 2 by (a) assessing the simple links among model variables and (b) assessing patterns of mediation. Also, we (c) ensured that the observed links among model variables are not an artifact of either of the construct's components (e.g., links with behavioral affirmation are not an artifact of positivity of partner behavior or positivity of ideal self), (d) assessed the validity of the affirmation construct by pitting behavioral affirmation against behavioral verification and enhancement, and (e) examined the associations of model variables with socially desirable responding.

## Method

*Participants.* Fifty heterosexual couples (50 women, 50 men) took part in the study on a voluntary basis or in partial fulfillment of the requirements for introductory psychology courses at the University of North Carolina at Chapel Hill. Sign-up sheets listed two participation requirements. First, individuals needed to be involved in a dating relationship of at least 2 weeks in duration. Second, participants were asked to bring the dating partner with them to the research session. If both persons were enrolled in introductory psychology courses, both received partial course credit; otherwise, individuals participated on a voluntary basis.

Participants were 19.69 years old on average, and most were freshmen or sophomores (22% freshmen, 36% sophomores, 21% juniors, 17% seniors, 3% other). The majority were Caucasian (7% African American, 4% Asian American, 86% Caucasian, 1% Latino, 2% other). Participants had been involved in their dating relationship for an average of 13.62 months. Most participants described their involvements as steady dating relationships (10% dating casually, 6% dating regularly, 78% dating steadily, 5% engaged or married), and most described their relationships as monogamous (86% said neither partner dated others, 5% said one partner dated others, 9% said both dated others).

*Procedure.* One to 10 couples attended each research session. The experimenter explained that participants would be asked to complete a questionnaire describing themselves and their relationship. Partners were separated so they could not view one another's responses while completing their questionnaires. At the end of the session couples were debriefed and thanked for their assistance.

*Questionnaires.* Participants responded to 25 attributes with respect to each of several instructional sets: (a) actual self—"Please use these phrases to describe yourself (how you really are)"; (b) ideal self—"Please use these phrases to describe how you ideally would like to be (your ideal self)"; (c) normative ideal—"Please use these phrases to describe what the typical University of North Carolina student of your sex ideally would like to be (average student's ideal self)"; (d) partner's perception of self—"Please use these phrases to describe your partner sees you (how would your partner describe you?)"; and (e) partner's behavior toward self—"Please use these phrases to describe how your partner behaves toward you (does your partner act like you have each quality?)." To assess across-partner agreement in ratings, we also obtained ratings for three additional instructional sets: (f) partner's actual self, (g) partner's ideal self, and (h) self's behavior toward partner.

One page was devoted to each instructional set. To ensure that our results were not influenced by the order in which ratings were completed, we randomly assigned participants to one of four random orderings of the instructional sets. Each instructional set asked for ratings with respect to 25 ten-point bipolar attribute scales (scale values ranged from 0 to 9; e.g., warm/cold, sexy/not-sexy, talkative/reserved, intelligent/unintelligent, passionate/self-controlled). The 25 attribute scales were modeled after the instrument developed by LaPrelle and colleagues (LaPrelle et al., 1990). As in Studies 1 and 2, couple well-being was measured using a version of the Dyadic Adjustment Scale suitable for dating relationships (Spanier, 1976). As in Study 2, self-deception and impression management were measured using Paulhus' (1984) Balanced Inventory of Desirable Responding.

*Measures of model variables.* Participants' responses to the 25 attribute scales for each instructional set served as the basis for developing within-participant correlational measures of five constructs. For example, to measure partner perceptual affirmation we calculated the correlation (Fischer's z transformation) between each participant's (a) scores for the 25 attributes tapping the ideal self and (b) scores for the 25 attributes tapping the participant's beliefs regarding the partner's perception of the self. Using parallel procedures, we calculated within-participant correlational measures of the following constructs: (a) partner perceptual affirmation = scores for ideal self with scores for partner's perception of self; (b) partner behavioral affirmation = scores for ideal self with scores for partner's behavior toward self; (c) partner behavioral verification = scores for actual self with scores for partner's behavior toward self; (d) partner behavioral enhancement = scores for normative ideal with scores for partner's behavior toward self; and (e) self similarity to the ideal self = scores for actual self with scores for ideal self. (To ensure that our findings were robust, e.g., not an artifact of our within-participant correlational measures, we also developed parallel within-participant discrepancy measures of each construct. For example, to develop a discrepancy measure of partner perceptual affirmation, [a] for each of 25 attributes, we calculated the absolute value of the discrepancy between the score the participant recorded for the ideal self and the score the participant recorded for the partner's perception of the self, and [b] we summed the resultant discrepancy scores across the 25 attributes.)

To ensure that our findings were not an artifact of either of the components of a given measure-for example, to ensure that findings for behavioral affirmation were attributable to behavioral affirmation per se and not to either the simple positivity of the ideal self or the simple positivity of partner behavior-we also developed several component measures based on ratings for the 25 attribute scales for just one instructional set. We developed averaged measures of positivity of partner perception (scores for partner's perception of self), positivity of partner behavior (scores for partner's behavior toward the self), positivity of ideal self (scores for the ideal self), and positivity of actual self (scores for the actual self), along with corresponding measures regarding the partner; i.e., positivity of behavior toward partner, positivity of partner's ideal self, and positivity of partner's actual self. (For each component measure, we [a] used the average of participants' normative ideal ratings to determine which end of each attribute scale was most desirable, e.g., is passionate or selfcontrolled more desirable? and [b] reverse-scored items where appropriate, so that high numbers consistently reflected greater positivity.)

# Results

Reliability and validity of measures. Reliability analyses revealed adequate alphas for items tapping dyadic adjustment ( $\alpha$  = .90), self-deception ( $\alpha = .57$ ), and impression management ( $\alpha =$ .80). Also, reliability analyses performed on the 25 items that composed each component score revealed adequate alphas for positivity of partner perception ( $\alpha = .76$ ), positivity of partner behavior ( $\alpha = .73$ ), positivity of ideal self ( $\alpha = .69$ ), and positivity of actual self ( $\alpha = .74$ ). (In addition, reliability analyses performed on the 25 discrepancy scores that composed each withinparticipant discrepancy measure revealed adequate alphas for partner perceptual affirmation [ $\alpha = .81$ ], partner behavioral affirmation [ $\alpha = .80$ ], partner behavioral verification [ $\alpha = .83$ ], partner behavioral enhancement [ $\alpha = .78$ ], and self similarity to the ideal self [ $\alpha = .81$ ].) Given the nature of the within-participant correlational measures of model variables, it is not possible to perform reliability analyses for these measures. We also calculated correlations of all variables with self-deception and impression management. These analyses revealed generally negligible associations with model variables (average r = .07; rs ranged from -.03 to .30), but 6 of 20 associations were noteworthy: Self-deception was correlated with partner perceptual affirmation, self similarity to the ideal self, positivity of partner perception, and positivity of actual self (rs = .22, .28, .23, and .30, respectively), and impression management was correlated with partner behavioral affirmation and dyadic adjustment (rs = .21 and .24, respectively; all ps < .05).

To evaluate the validity of our within-participant correlational measures, we calculated the correlation of each within-participant correlational measure with the parallel within-participant discrepancy measure. High values have opposite meanings for these two types of measure. For example, in partner behavioral affirmation, (a) for the correlational measure, high values reflect good convergence between the ideal self and the partner's behavior toward the self, whereas (b) for the discrepancy measure, low values reflect good convergence between the ideal self and the partner's behavior toward the self. Accordingly, to the extent that our measures are valid, we should observe negative correlations between the correlational and discrepancy measures. Indeed, correlational analyses revealed good convergence across the two measurement techniques for partner perceptual affirmation (r = -.79), partner behavioral affirmation (r = -.73), partner behavioral verification (r = -.78), partner behavioral enhancement (r = -.73), and self similarity to the ideal self (r = -.80; all ps < .01).

To determine whether partners agreed in their descriptions of one another we calculated correlations between male and female partners' reports of parallel component scores. Male partners' scores for positivity of actual self were correlated with their female partners' scores for positivity of partner's actual self (r = .46, p < .46.01); a parallel association was observed for women (r = .30, p < .01); .05). Male partners' scores for positivity of their behavior toward their partner were correlated with their female partners' scores for positivity of partner behavior (r = .36, p < .01); the parallel association was nonsignificant among women (r = .16, ns). Partners did not exhibit good awareness of one another's ideals: male partners' scores for positivity of ideal self were not related to their female partners' scores for positivity of partner's ideal self (r =-.07, ns), and female partners' scores for positivity of ideal self were not related to their male partners' scores for positivity of partner's ideal self (r = .19, ns). Male and female partners agreed in their reports of dyadic adjustment (r = .56, p < .01).

Analysis strategy. As in Study 1, we used a two-step strategy to estimate effect sizes and significance levels. In Step 1 we calculated the proportion of variance accounted for by each model variable, pooling the data for male and female partners. All Step 1 analyses included the main effect of sex, the main effect of one or more model variables, and the interaction of sex with each variable. In Step 2 we replicated the Step 1 analyses separately for male and female partners, selecting the analysis with the weakest effect for the variable of interest. The Step 2 procedure allowed us to identify the error term for calculating the significance of each Step 1 effect, along with the degrees of freedom for calculating the significance of each effect. Given that our analysis strategy is relatively conservative, we report one-tailed significance tests for all associations for which we advanced a priori hypotheses.

It is reassuring to note that the t values obtained using this procedure are very close, albeit slightly smaller, than those obtained by averaging the t values from the individual Step 2 analyses. In all instances, the significance versus nonsignificance of the obtained t value was identical to the significance versus nonsignificance of the average t value from the Step 2 analyses that were performed separately for male and female partners. In addition, we replicated all of our analyses, substituting discrepancy measures for our correlational measures, and found that in all instances, the significance versus nonsignificance of the obtained t values was identical to the significance versus nonsignificance of the t values obtained using our correlational measures.

Table 6 summarizes findings for the within-participant correlational measures of model variables. For all key analyses, we first examined the association of each criterion with its presumed proximal predictor (see Table 6, Model 1). In addition, to ensure that our results were not an artifact of either of the components of a given measure, we performed regression analyses that included each correlational measure along with measures of the two components that measure comprised (e.g., partner perceptual affirmation along with positivity of partner perception and positivity of ideal self). We also performed mediation analyses, examining the association of each criterion with its presumed proximal and distal predictors (see Table 6, Model 2). To facilitate interpretation of regression results (see Table 6, "Regression analysis"), when a given analysis includes two or more model variables we also present the simple association of each variable with the criterion (see Table 6, "Simple association"). The simple association reflects the association of a model variable with the criterion in an analysis that takes into account variance attributable to sex and interactions with sex. Thus, all statistics presented in Table 6 are based on analyses that included sex main effects and interactions. However, no effects involving sex were significant.

Partner affirmation hypothesis. Consistent with the partner affirmation hypothesis, partner perceptual affirmation was positively associated with partner behavioral affirmation (see Table 6, "Partner affirmation hypothesis," Model 1;  $\beta = .62$ , p < .01). To ensure that this association was not an artifact of either of the components of the perceptual affirmation correlational measure, we regressed partner behavioral affirmation onto partner perceptual affirmation, positivity of partner perception, and positivity of ideal self (along with sex and the interaction of sex with each variable). This analysis revealed that partner perceptual affirmation accounted for unique variance beyond both positivity of partner perception and positivity of ideal self (see Table 6, Model 1a, "Regression analysis";  $\beta = .62$ , p < .01).

Movement-toward-ideal hypothesis. In Study 3 we measured self similarity to the ideal self rather than self movement toward the ideal self. Thus, Study 3 analyses involving this measure represent indirect tests of our predictions. Nevertheless, consistent with the movement-toward-ideal hypothesis, partner behavioral affirmation was positively associated with self similarity to the ideal self (see Table 6, "Movement-toward-ideal hypothesis," Model 1). To ensure that this association was not an artifact of either of the components of the behavioral affirmation measure, we regressed self similarity to the ideal self onto partner behavioral affirmation, positivity of partner behavior, and positivity of ideal self. This analysis revealed that partner behavioral affirmation accounted for unique variance beyond both positivity of partner behavior and positivity of ideal self (see Table 6, Model 1a, "Regression analysis").

*Couple well-being hypothesis.* Inconsistent with the couple well-being hypothesis, self similarity to the ideal self was not significantly associated with dyadic adjustment in either the simple analysis or the analysis in which dyadic adjustment was regressed onto self similarity to the ideal self, positivity of actual self, and

# Table 6

Regression Analyses Predicting Perceived Partner Behavioral Affirmation, Self Similarity to the Ideal Self, and Couple Well-Being: Study 3

	ass	Simple sociation	Regression analysis		
Criterion	β	t	β	t	$R^2$
	Partner affirm	nation hypothesis			
Partner behavioral affirmation Model 1					
Partner perceptual affirmation Model 1a	—	—	.62	4.80**	.44**
Partner perceptual affirmation	.62	4.80**	.62	4.21**	
Positivity of partner perception	08	-0.57	.04	0.22	
Positivity of ideal self	.21	0.21	.07	0.41	
l	Novement-towa	ard-ideal hypothesi	s		
Self similarity to the ideal self					
Partner behavioral affirmation Model 1a		—	.57	4.32**	.34**
Partner behavioral affirmation	.57	4.32**	.50	3.64**	
Positivity of partner behavior	19	$-1.29^{+}$	17	-1.15	
Positivity of ideal self Model 2	.27	1.90*	.21	1.46†	
Partner behavioral affirmation	.57	4.32**	.06	0.50	.70**
Partner perceptual affirmation	.84	9.88**	.80	6.81**	
Model 3					
Partner perceptual affirmation Model 3a		—	.84	9.88**	.69**
Partner perceptual affirmation	.84	9.88**	.74	8.29**	
Positivity of partner perception	25	-1.72*	20	-1.97*	
Positivity of ideal self	.27	1.90*	.23	2.27*	
	Couple well-	being hypothesis			
Dyadic adjustment Model 1					
Self similarity to the ideal self Model 1a	—	—	.04	0.29	.02
Self similarity to the ideal self	.04	0.29	.19	1.09	
Positivity of actual self	.11	0.74	.32	1.51†	
Positivity of ideal self	03	-0.20	27	-1.27	
Model 2					
Self similarity to the ideal self	.04	0.29	37	$-1.49^{\dagger}$	.20**
Partner behavioral affirmation	.37	2.68**	.47	2.41**	
Partner perceptual affirmation	.17	1.13	.18	0.71	
Model 3					
Partner behavioral affirmation		_	.37	2.68**	.17**
Model 3a					
Partner behavioral affirmation	.37	2.68**	.36	2.38*	
Positivity of partner behavior	19	-1.33	10	-0.62	
Positivity of ideal self	03	-0.20	06	-0.35	

*Note.* In addition to the variables listed above, all analyses also included the main effect of gender as well as interactions of gender with each model variable. A dash indicates models for the simple association and for regression analyses are identical. For t values, numerator df = 1; denominator df varied from 46 to 48. † p < .10 (marginally significant). \* p < .05. \*\* p < .01.

positivity of ideal self (see Table 6, "Couple well-being hypothesis," Models 1 and 1a).

*Mediation of similarity to ideal.* Both behavioral affirmation and perceptual affirmation exhibited simple associations with self similarity to the ideal self (see Table 6, Model 2, "Simple association"). Inconsistent with predictions, when we regressed self similarity to the ideal self simultaneously onto behavioral affirmation and perceptual affirmation, the coefficient for perceptual affirmation remained strong, whereas the coefficient for behavioral affirmation declined to nonsignificance (see Table 6, Model 2, "Regression analysis"). That is, in predicting self similarity to the ideal self, perceptual affirmation accounts for unique variance beyond behavioral affirmation, but behavioral affirmation does not account for unique variance beyond perceptual affirmation. We

also performed an additional analysis, regressing self similarity to the ideal self onto perceptual affirmation and its two components (see Model 3a). This analysis revealed that perceptual affirmation exhibits a reliable positive association with self similarity to the ideal self, an association that is not attributable to either of perceptual affirmation's components.

Mediation of couple well-being. Behavioral affirmation exhibited a simple association with dyadic adjustment, but perceptual affirmation and self similarity to the ideal self did not (see Table 6, Model 2, "Simple association"). Not surprisingly, when we regressed dyadic adjustment simultaneously onto self similarity to the ideal self, behavioral affirmation, and perceptual affirmation, the coefficient remained strong for behavioral affirmation, but the coefficients were nonsignificant (or marginally negative) for self similarity to the ideal self and perceptual affirmation (see Table 6, Model 2, "Regression analysis"; the coefficient for self similarity to the ideal self was marginally negative because of suppression). Thus, and parallel to several findings from Studies 1 and 2, behavioral affirmation accounts for significant variance in couple well-being beyond self similarity to the ideal self. We also performed an additional analysis, regressing dyadic adjustment onto behavioral affirmation and its two components (see Table 6, Model 3a). This analysis revealed that behavioral affirmation exhibits a reliable positive association with dyadic adjustment.

Partner affirmation versus partner verification and partner enhancement. To evaluate the validity of the partner affirmation construct in comparison with alternative explanations of personal and couple well-being, we obtained data that allowed us to construct measures of behavioral affirmation, behavioral verification, and behavioral enhancement. As can be seen in Table 7, with one exception, behavioral affirmation, behavioral verification, and behavioral enhancement exhibited significant simple associations with both self similarity to the ideal self and dyadic adjustment (see Table 7, "Simple association"; the association of behavioral enhancement with dyadic adjustment was nonsignificant). To pit behavioral affirmation against behavioral verification and behavioral enhancement, we regressed each criterion simultaneously onto (a) behavioral affirmation and behavioral verification and (b) behavioral affirmation and behavioral enhancement (along with main effects and interactions involving sex). In all four analyses, the coefficients for behavioral affirmation remained strong, whereas the coefficients for behavioral verification and behavioral enhancement declined substantially (see Table 7, "Regression analysis"). These findings are consistent with expectations, demonstrating that partner behavioral affirmation consistently accounts for unique variance in model variables above and beyond variance attributable to partner behavioral verification and partner behavioral enhancement.

Mutuality of partner affirmation and similarity to the ideal self. Exploratory across-partner analyses revealed that male and female partners' measures were not significantly associated for perceptual affirmation or self similarity to the ideal self (rs = .10 and .00, respectively; both *ns*); however, male and female partners exhibited marginal mutuality for behavioral affirmation (r = .27, p < .10).

# Discussion

The results of Study 3 provide partial support for our model. Several findings were consistent with predictions and with the results of Studies 1 and 2: Consistent with the partner affirmation hypothesis, our findings suggest that partners who perceive the self in a manner that is congruent with the ideal self also tend to behave toward the self in a manner that is congruent with the ideal self. Consistent with the movement-toward-ideal hypothesis, when a partner is seen to behave in a manner that is congruent with the ideal self, the self reports greater similarity to the ideal self. Also, consistent with several findings from Studies 1 and 2, the Study 3

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Regression Analyses Examining Partner Affirmation, Partner Verification, and Partner Enhancement: Study 3

	Simple	association	Regression analysis		
Criterion	β	t	β	t	$R^2$
Predictin	g self move	ement toward the	ideal self		
Self similarity to the ideal self					
Partner behavioral affirmation	.57	4.32**	.56	3.28**	.36**
Partner behavioral verification	.39	2.72**	.03	0.18	
Partner behavioral affirmation	.57	4.32**	.57	4.00**	.36**
Partner behavioral enhancement	.27	1.84*	.06	0.38	
	Predicting of	dyadic adjustmen	t		
Time 1 dyadic adjustment					
Partner behavioral affirmation	.37	2.68**	.46	2.53**	.16**
Partner behavioral verification	.15	1.00	15	-0.81	
Partner behavioral affirmation	.37	2.68**	.33	2.24*	.16**
Partner behavioral enhancement	.19	1.28	.08	0.49	

*Note.* In addition to the variables listed above, all analyses also included the main effect of gender as well as interactions of gender with each model variable. For t values, numerator df = 1; denominator df varied from 47 to 48.

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

results suggest that behavioral affirmation accounts for unique variance in couple well-being beyond other model variables.

In contrast to the results of Studies 1 and 2, in Study 3, similarity to the ideal self was not associated with couple well-being. Also, mediation analyses suggested that the key to predicting self similarity to ideal is perceptual affirmation, not behavioral affirmation. We suspect that these inconsistencies with the results of Studies 1 and 2 may rest on the fact that in Study 3 we measured self similarity to the ideal self, not self movement toward the ideal self. The concept of self movement toward the ideal self concerns movement toward an ideal state, whereas the Study 3 similarityto-ideal measure may have tapped into having achieved an ideal state, a construct that bears closer resemblance to actual-self/idealself discrepancies or to the concept of self-esteem. It seems plausible that movement toward becoming a better person may rest heavily on partner behavior toward the self and that such movement should be linked with couple well-being. In contrast, having achieved the state of being a better person may or may not bear any relation to a partner's behavior, and such an achievement may have few or no implications for couple well-being. Also, the measure of self movement toward ideal self that was used in Studies 1 and 2 assessed effects that were attributed to involvement with the partner; the Study 3 similarity-to-ideal measure was agnostic with respect to the partner. Accordingly, having achieved similarity to one's ideal self may result from a variety of causes, many of which do not involve partner behavioral affirmation. For example, an ideal state, such as professional excellence, might result primarily from individual ability or effort.

# Study 4

In Studies 1, 2, and 3 we examined college students' dating relationships, and in doing so we explored the Michelangelo phenomenon among relatively young adults (a) who were at least moderately oriented toward personal growth and achievement, (b) who were immersed in a period characterized by high levels of identity change, and (c) who were involved in short-term relationships with relatively fast-paced and visible processes of mutual influence and adaptation. Are the core constructs of the Michelangelo phenomenon relevant to older adults who may or may not be oriented toward growth and achievement, who have already experienced a good deal of identity change, and in whose relationships the processes of mutual influence and adaptation may be slowpaced and difficult to discern? In Study 4 we began to address such issues by examining the associations among model variables in the relationships of an older and more diverse sample, using data from one time period of a longitudinal study of marital relationships. At Time 6 of the study both partners provided measures of partner perceptual affirmation, behavioral affirmation, dyadic adjustment, and self-esteem. Accordingly, in Study 4 we (a) assessed several simple links in the model, (b) assessed mediation, and (c) evaluated the validity of the model by determining whether there are differential links among model variables as a function of selfesteem.

# Method

Participants and recruitment. The Study 4 data are from 54 couples (54 women, 54 men) who participated in Time 6 of a six-wave longitudinal

study of marital relationships conducted at the University of North Carolina at Chapel Hill (for a full description, see Rusbult, Bissonnette, Arriaga, & Cox, 1998).<sup>6</sup> Couples were recruited by means of a three-stage process: (a) We located couples who applied for marriage licenses at the county courthouse, (b) research assistants telephoned couples to determine whether they wished to receive project information, and (c) the principal investigator telephoned couples to solicit their participation. The analyses reported below are based on the 54 couples who completed research activities at Time 6 (relevant constructs were measured only at Time 6).

At Time 6 participants were 35.06 years old on average. All participants had completed high school, 40% had bachelor's degrees, and 38% had graduate degrees. Participants' personal annual salary was around \$20,000 to \$30,000. The majority were Caucasian (2% African American, 1% Asian American, 95% Caucasian, 2% other). At Time 6 participants had been married for about 4 years (48.65 months); by Time 6, 51% of the couples had given birth to one or more children.

*Procedure.* The project was a six-wave longitudinal study. At Times 1, 3, and 5 participants were mailed copies of questionnaires, and they returned the completed questionnaires by mail. At Times 2, 4, and 6 couples attended laboratory sessions during which they completed questionnaires and participated in tasks relevant to broader project goals. At the end of the Time 6 session couples were fully debriefed, given copies of manuscripts based on project data, paid, and thanked for their assistance. Couples were paid \$40 for their participation in Time 6 activities.

*Questionnaires.* Items measuring perceptual affirmation and behavioral affirmation were the same as those used in Studies 1 and 2. Quality of couple functioning was measured using a version of the Dyadic Adjustment Scale suitable for marital relationships (Spanier, 1976). Self-esteem was measured using a 17-item version of Hoyle's (1991) instrument.

# Results

Reliability and validity of measures. Reliability analyses revealed adequate alphas for partner perceptual affirmation ( $\alpha = .89$ ), partner behavioral affirmation ( $\alpha = .88$ ), dyadic adjustment ( $\alpha = .91$ ), and self-esteem ( $\alpha = .92$ ). Partners exhibited good agreement in their reports of dyadic adjustment, the only construct that was reported on by both partners (r = .73, p < .01).

Analysis strategy. As in Studies 1 and 3, we used a two-step strategy to estimate effect sizes and significance levels. In Step 1 we pooled the male and female partners' data to calculate the proportion of variance accounted for by each variable, and in Step 2 we replicated the Step 1 analyses separately for men and women, selecting the analysis with the weakest effect for the variable of interest for use in calculating effect sizes and significance levels. Given that this strategy is conservative, we report

<sup>&</sup>lt;sup>6</sup> Data from this study were also used in (a) Arriaga and Rusbult (1998; Study 1), in which the association of accommodation with partner perspective taking was examined; (b) Bissonnette, Rusbult, and Kilpatrick (1997), in which the associations among commitment, empathic accuracy, and accommodation were examined; (c) Drigotas et al. (in press; Study 2), in which the association of mutuality of commitment with couple well-being was examined; (d) Gaines et al. (1997; Study 4), in which the association of attachment style with accommodation was examined; (e) Rusbult, Bissonnette, et al. (1998), in which the association of accommodation with both commitment and couple well-being was examined; (f) Rusbult, Van Lange, et al. (1998; Study 4), in which the association of commitment with positive illusion was examined; (g) Van Lange et al. (1997; Study 6), in which the association of commitment with willingness to sacrifice was examined; and (h) Wieselquist et al. (1998; Study 2), in which the associations among commitment, accommodation, and trust were examined.

Regression Analyses Predicting Perceived Partner Behaviora	l Affirmation
and Couple Well-Being: Study 4	

	Simple association		_	Regression analysis		
Criterion	β	t	β	t	$R^2$	
	Partner affirm	nation hypothesis	s			
Partner behavioral affirmation Model 1						
Partner perceptual affirmation			.76	7.73**	.58**	
	Couple well-	being hypothesis	;			
Dyadic adjustment Model 1						
Partner behavioral affirmation Model 2	—	<u></u>	.62	4.94**	.38**	
Partner behavioral affirmation	.62	4.94**	.40	2.07*	.41**	
Partner perceptual affirmation	.58	4.65**	.28	1.44†		

*Note.* In addition to the variables listed above, all analyses also included the main effect of gender as well as interactions of gender with each model variable. A dash indicates models for the simple association and for regression analyses are identical. For t values, numerator df = 1; denominator df varied from 46 to 50.  $\dagger p < .10$  (marginally significant). \* p < .05. \*\* p < .01.

one-tailed significance tests for all associations for which we advanced a priori hypotheses.

Table 8

The t values obtained using this procedure are very close to, albeit slightly smaller than, those obtained by averaging the tvalues from the individual Step 2 analyses. In all instances, the significance versus nonsignificance of the obtained t value was identical to that of the average t value from the Step 2 analyses that were performed separately for men and women. Table 8 summarizes the Study 4 findings. All statistics presented in Table 8 are based on analyses that included sex main effects and interactions. However, no effects involving sex were significant.

Partner affirmation and couple well-being. Consistent with the partner affirmation hypothesis, perceptual affirmation was significantly associated with behavioral affirmation (see Table 8). In Study 4 we did not measure self movement toward the ideal self. Accordingly, Table 8 shows results relevant to assessing the associations of behavioral affirmation and perceptual affirmation with dyadic adjustment. Both predictors exhibited simple associations with dyadic adjustment (see Table 8, Model 2, "Simple association"). When we regressed dyadic adjustment simultaneously onto the two model variables (see Table 8, "Regression analysis"), the coefficient was significant for behavioral affirmation but only marginally significant for perceptual affirmation. Additional across-partner analyses revealed that the men's reports of partner behavioral affirmation were associated with the women's reports of dyadic adjustment (r = .44, p < .01); a parallel association was evident among women (r = .58, p < .01).

Mediation and moderation of behavioral affirmation effects by participant self-esteem. To determine whether self-esteem moderates the association of behavioral affirmation with dyadic adjustment, we regressed dyadic adjustment onto behavioral affirmation, self-esteem, and the Self-Esteem  $\times$  Behavioral Affirmation interaction (along with the main effect of sex and interactions with sex). Consistent with the results displayed in Table 8, this analysis revealed a significant main effect of behavioral affirmation, t(1, 1)

44) = 4.91, p < .01; however, the main effect of self-esteem and the Self-Esteem × Affirmation interaction were nonsignificant, ts(1, 44) = 0.84 and 0.62, both *ns*. (We also replicated this analysis using a median split of participants into low vs. high self-esteem groups and obtained parallel results: Neither the main effect of self-esteem nor the Self-Esteem × Affirmation interaction was significant.) Thus, the association of behavioral affirmation with couple well-being is neither mediated nor moderated by self-esteem.

Mutuality of partner affirmation and personal well-being. Across-partner analyses revealed that partners exhibited mutuality with respect to both perceptual affirmation (r = .40, p < .05) and behavioral affirmation (r = .41, p < .05). Thus, the benefits perceived to be received from a partner tend to be weakly commensurate with those perceived to be received by the partner.

# Discussion

The results of Study 4 are consistent with our model. Consistent with the partner affirmation hypothesis, when a partner is believed to perceive the self in a manner congruent with the ideal self, the partner is perceived to behave toward the self in like manner. Couple well-being exhibits simple associations with both partner perceptual affirmation and behavioral affirmation. Mediation analyses suggested that perceptual affirmation and behavioral affirmation to some degree are distinguishable, although both variables accounted for at least marginal variance in couple well-being.

#### General Discussion

Four studies revealed moderately good support for our model of the Michelangelo phenomenon. Table 9 presents a meta-analysis of the concurrent results from Studies 1 through 4, and Table 10 presents a meta-analysis of the lagged results from Studies 1 and 2. To calculate meta-analytic statistics, we translated statistics from

#### Table 9

Meta-Analysis of Concurrent Regression Analyses Predicting Perceived Partner Behavioral Affirmation, Self Movement Toward the Ideal Self, and Couple Well-Being: Studies 1, 2, 3, and 4

	S	imple ociation	F	Regression analysis		
Criterion	β	$\beta$ t		t	$R^2$	
Partn	er affirmati	on hypothesis				
Partner behavioral affirmation						
Model 1						
Partner perceptual affirmation			.70	7.26**	.50**	
Moveme	ent-toward-	ideal hypothesi	s			
Self movement toward the ideal self						
Model 1						
Partner behavioral affirmation	_	_	.49	4.08**	.26*	
Model 2						
Partner behavioral affirmation	.49	4.08**	.43	2.66**	.39**	
Partner perceptual affirmation	.52	4.50**	.22	1.36†		
Coup	le well-bei	ng hypothesis				
Couple well-being						
Model 1						
Self movement toward the ideal self		_	.26	2.06*	.12*	
Model 2						
Self movement toward the ideal self	.26	2.06*	05	0.15	.35**	
Partner behavioral affirmation	.53	4.50**	.51	2.77**		
Partner perceptual affirmation	.42	3.17**	.07	0.32		
Model 3						
Self movement toward the ideal self	.26	2.06*	03	-0.06	.34**	
Partner behavioral affirmation	.53	4.50**	.54	3.83**		

Note. A dash indicates models for the simple association and for regression analyses are identical.

p < .10 (marginally significant). p < .05. p < .01.

earlier analyses into z scores, computing the average statistic across analyses; all analyses were weighted equally. Our use of equal weighting meant, for example, that Study 2 analyses carried somewhat greater weight in the meta-analyses; this seemed appropriate, in that Study 2 included findings from both participants and friends. The lagged analyses for couple well-being combined Study 2 results regarding later dyadic adjustment and later relationship status. We included all Study 3 findings in the metaanalyses, even though some analyses examined links with self similarity to the ideal self rather than self movement toward the ideal self. (When we excluded Study 3 analyses involving self similarity to the ideal self, patterns of significance vs. nonsignificance were unchanged.) We excluded the Study 4 regression analyses predicting couple well-being because Study 4 did not include a measure of self movement toward the ideal self.

The statistics presented in Tables 9 and 10 reveal that on average, (a) consistent with the partner affirmation hypothesis, perceived partner perceptual affirmation was associated with perceived partner behavioral affirmation (this effect was nonsignificant in the residualized lagged analysis); (b) consistent with the movement-toward-ideal hypothesis, in both concurrent and residualized lagged analyses, perceived partner behavioral affirmation was associated with self movement toward the ideal self (the latter association was marginal); and (c) consistent with the couple well-being hypothesis, in both concurrent and residualized lagged analyses, self movement toward the ideal self was associated with enhanced couple well-being (the latter association was marginal). Mediation analyses revealed that perceived partner behavioral affirmation largely accounted for the associations of other model variables with both (a) self movement toward the ideal self and (b) couple well-being.<sup>7</sup> In earlier reported analyses pitting the partner affirmation construct against both partner verification and partner enhancement, we found that the affirmation construct accounted for unique variance in key criteria. Also, primary links in the

<sup>&</sup>lt;sup>7</sup> It might be argued that the direct association of behavioral affirmation with couple well-being should be tested with a two-tailed test rather than a one-tailed test, in that this direct association was not predicted a priori. We did predict that behavioral affirmation would exhibit a simple association with couple well-being, so for the sake of parsimony we have tested this effect using one-tailed tests. Applying more conservative two-tailed tests to previously reported effects, we find that (a) the meta-analytic concurrent associations remain significant (see Table 9, "Couple well-being hypothesis," Models 2 and 3), (b) the meta-analytic residualized-lagged association declines from significance to marginal significance (see Table 10, "Couple well-being hypothesis," Model 3), and (c) relevant associations from Studies 1 through 4 are largely unchanged—out of a total of 10 key associations, 6 effects remain significant, 1 effect declines from being significant to marginal, 1 effect declines from being marginal to nonsignificant, and 2 effects remain nonsignificant.

# Table 10

Meta-Analysis of Lagged Regressio	on Analyses Predicting I	Perceived Partner Behavioral
Affirmation, Self Movement Toward	d the Ideal Self, and Co	uple Well-Being: Studies 1 and 2

	Simple association		Regression analysis		
Criterion	β	t	β	t	$R^2$
Partner affir	rmation hy	pothesis			
Later partner behavioral affirmation Model 1					
Earlier partner perceptual affirmation	.63	3.95**	.11	0.57	.65**
Earlier partner behavioral affirmation	.80	6.35**	.71	3.89**	
Movement-toy	ward-ideal	hypothesis			
Later self movement toward the ideal self Model 1					
Earlier partner behavioral affirmation	.34	3.60**	.18	1.42†	.31**
Earlier self movement toward the ideal self	.50	4.21**	.36	2.73**	
Model 2					
Earlier partner behavioral affirmation	.34	3.60**	.19	1.01	.34**
Earlier partner perceptual affirmation	.26	1.75*	.03	0.15	
Earlier self movement toward the ideal self	.50	4.21**	.35	2.42**	
Couple wel	l-being hy	pothesis			
Later couple well-being					
Earlier self movement toward the ideal self	31	2 61**	16	1.62+	26*
Earlier dvadic adjustment	.61	5.61**	.56	5.49**	
Model 2					
Earlier self movement toward the ideal self	.31	2.61**	.12	1.01	.33**
Earlier partner behavioral affirmation	.39	3.11**	.20	1.08	
Earlier partner perceptual affirmation	.25	1.85*	08	-0.48	
Earlier dyadic adjustment	.61	5.61**	.49	3.84**	
Model 3					
Earlier partner behavioral affirmation	.39	3.11**	.21	1.75*	.27*
Earlier dyadic adjustment	.61	5.61**	.50	4.25**	
Model 4					
Earlier self movement toward the ideal self	.31	2.61**	.12	1.05	.31**
Earlier partner behavioral affirmation	.39	3.11**	.14	0.91	
Earlier dyadic adjustment	.61	5.61**	.49	3.89**	

p < .10 (marginally significant). p < .05. p < .01.

model were not attributable to associations with self-esteem level, and self-esteem did not significantly moderate the associations among model variables. In the following paragraphs we review each component of the model and discuss the implications of our findings for the broader literatures regarding behavioral confirmation, the self, and interdependence in close relationships.

# Perceived Partner Perceptual Affirmation

Do ideal sculptor visions yield accomplished partner sculpting? The first element of the Michelangelo phenomenon centers on the translation of a close partner's expectations into action. Consistent with the partner affirmation hypothesis, concurrent analyses revealed that partners who were seen to perceive the self in a manner close to the self's ideal were also seen to behave toward the self in a manner that affirmed the self's ideal; partners who were seen to perceive the self in a manner antithetical to the self's ideal were also seen to behave in a manner antithetical to the self's ideal (see Table 9). Study 1 revealed that although earlier tendencies toward affirming perception were associated with later tendencies toward affirming behavior, earlier perception did not translate into change in behavior, perhaps because of insufficient change over time in this criterion (see Table 10). Study 3 revealed that the link between affirming perception and affirming behavior is not an artifact of either of the components of perceptual affirmation; associations with affirming perception (a) extend beyond positivity of partner perception and (b) extend beyond positivity of the ideal self. It is the congruence of partner perception with the self's ideal that accounts for the association of partner perception with partner behavior.

It is notable that perceptual affirmation and disaffirmation appear to be visible to others. In Study 2, participants and their friends exhibited relatively good agreement in their descriptions of the partner. Moreover, friends' descriptions of partner perceptual affirmation were associated with the self's report of partner behavioral affirmation. Of course, these findings could have resulted from a third variable that influenced both participants' and friends' descriptions of the partner. For example, perhaps both participants and friends held a generally rosy view of the participant and his or her relationship, and perhaps generalized rosiness accounted for parallel findings in within-participant and participant–friend analyses. We think this is unlikely, given that these variables were not associated with either self-deception or impression management tendencies. Nevertheless, future researchers should seek to rule out possible across-respondent confounds as explanations of the present findings.

Exploratory analyses revealed evidence of mutuality in partner perceptual affirmation. In Studies 1 and 4, across-partner reports of perceptual affirmation were weakly to moderately correlated: Individuals who saw the best in what their partners might be were rewarded by mutually affirming partner regard; individuals who disaffirmed their partners suffered reciprocal disaffirmation (this effect was not significant in Study 3, perhaps because of the indirect and subtle measurement of affirmation). A priori, it would seem that an insightful, empathic vision on the part of an intimate would not be easy to come by. As noted in the introduction, we suspect that partner-ideal-congruent mutual admiration may be the source of considerable pleasure in an ongoing relationship.

Earlier, we speculated that perceptual affirmation may not rest solely on conscious processing. Why so? Conscious perception of this sort presumably would entail (a) setting aside one's own ideal and (b) perceiving and embracing a partner's ideal. Assuming that individuals were capable of these perceptual feats, conscious perceptual affirmation would also necessitate (c) discerning elements of the partner's ideal in the partner's actual self. Such discernment cannot always be easy and may entail cognitive maneuvers of the form described in the literature on positive illusion: Partners may find it necessary to overlook deviations from the ideal, translate ideal-incongruent flaws into ideal-congruent virtues, or develop benign interpretations of seemingly ideal-incongruent behavior (e.g., Murray & Holmes, 1993; Murray et al., 1996a). Moreover, perceptual enhancement-or simple positive perception-is not sufficient to yield perceptual affirmation, in that affirming perception must be both positive and congruent with the self's ideal. It is interesting to note that in Study 3, although partners agreed in their descriptions of each person's actual self and in their descriptions of each person's behavior toward the other, partners did not exhibit good awareness of one another's ideals. The fact that partners disagree in their descriptions of one another's ideal selves is consistent with the assumption that affirmation may not rest on conscious processing. Thus, we continue to believe that affirming perception may stand as the incidental consequence of mate selection processes favoring congruence of personal values, compatible implicit personality theories, or similarity of actual or ideal selves (cf. Byrne, 1971; Schneider, 1973; Smith et al., 1956; Wetzel & Insko, 1982). For a variety of reasons, some of us may end up with partners who are inclined to perceive us favorably and do so with respect to attributes that we hold dear. Some of us may end up with partners who either do not perceive us favorably or perceive us favorably "for all the wrong reasons": in terms of ideals to which we are indifferent or by which we are repulsed. In future work it will be important to identify the precise mechanisms underlying partner perceptual affirmation.

#### Perceived Partner Behavioral Affirmation

Does accomplished sculpting serve to uncover the slumbering ideal form? The second element of the Michelangelo phenomenon

centers on the translation of a partner's actions into self movement toward the ideal self. Consistent with the movement-toward-ideal hypothesis, concurrent analyses revealed that when partner behavior was seen to be congruent with the self's ideal, the self reported greater movement toward that ideal; when partner behavior was seen to be inconsistent with the self's ideal, the self reported movement away from that ideal (see Table 9). Also, Studies 1 and 2 revealed that earlier perceived tendencies toward affirming behavior were associated with marginal change over time in self movement toward the ideal self (see Table 10). Study 3 revealed that the link between affirming behavior and self similarity to ideal was not an artifact of either of the components of behavioral affirmation: Associations with affirming behavior (a) extended beyond positivity of partner behavior and (b) extended beyond positivity of the ideal self. It was the congruence of partner behavior with the self's ideal that accounted for similarity of the actual self to the ideal self.

Also, whether the partner is an accomplished or clumsy sculptor appears to be evident to others: In Study 3 partners agreed in their descriptions of one another's behavior. In Study 1, partners agreed in their descriptions of one another's self movement toward the ideal self, and across-partner analyses revealed that the self's description of the partner's behavioral affirmation was associated with the partner's description of the self's movement toward the ideal self. Also, in Study 2, participants and friends agreed in their descriptions of the partner's behavior and in their descriptions of the self's movement toward the ideal self, and friends' descriptions of partner behavioral affirmation were associated with the participant's subjectively experienced self movement toward the ideal self. As noted earlier, such findings could have resulted from a third variable that influenced both participants' and friends' descriptions of the partner. For example, perhaps participants and friends perceived the participant and his or her partner to be highly similar, and perhaps perceived similarity accounted for parallel findings in within-participant and participant-friend analyses. Future researchers should seek to rule out possible across-respondent confounds as explanations of the present findings.

As was the case for perceptual affirmation, exploratory analyses revealed evidence of mutuality in behavioral affirmation. In Studies 1, 3, and 4 across-partner reports of behavioral affirmation were weakly to moderately correlated, suggesting that partners who sculpt toward the self's ideal are rewarded by mutually accomplished sculpting. Moreover, in Study 1 across-partner reports of self movement toward ideal were weakly correlated, suggesting that personal growth may occur in tandem. As noted earlier, not all partners possess the vision and prowess of Michelangelo; positive across-partner associations for behavioral affirmation and self movement toward the ideal self mean that mutual influence and adaptation can involve affirmation or disaffirmation. Whereas some partners bring out the best in each other, others either fail to do so or bring out the worst in each other.

Both perceived behavioral affirmation and perceived perceptual affirmation exhibited positive links with self movement toward the ideal self (see Tables 9 and 10). At the same time, mediation analyses generally were consistent with our claim that the key to self movement toward the ideal self is affirming partner behavior. When we examined the simultaneous associations of behavioral affirmation and perceptual affirmation with self movement toward the ideal self, behavioral affirmation accounted for unique variance (see Tables 9 and 10; in the residualized lagged analyses neither coefficient was significant, perhaps because of insufficient change in the criterion). Thus, it is not sufficient for our partners to perceive the best that we might be. Affirming perception translates into personal growth largely insofar as affirming perception translates into affirming behavior.

Earlier, we suggested that behavioral affirmation yields self movement toward the ideal self by modifying the actual self. Is it possible that affirmation yields movement toward the ideal self in part because affirmation modifies the self's ideal? For example, a partner might behaviorally construct a modified ideal by communicating that which the self ought to regard as ideal. In the case of affirmation, the partner might sculpt an ideal that (a) constitutes a superior fit with the actual self and (b) represents a good match with the self's underlying values. In the case of disaffirmation, the partner might sculpt an ideal that either (a) constitutes a poor fit with the actual self or (b) represents a poor match with the self's underlying values. Study 3 revealed that behavioral affirmation is not significantly associated with positivity of the ideal self, a finding which might seem to be inconsistent with this line of reasoning. At the same time, it is plausible that sculpting the self's ideal reflects more than change along a simple positivity/negativity dimension; for example, partner-sculpted ideals might represent a qualitatively superior fit with the actual self or the self's underlying values. Future researchers should seek to establish whether behavioral affirmation produces changes in the actual self, the self's ideal, or both.

To speak of the social nature of the self is to pronounce a social psychological truism. The present work contributes to our understanding of the social nature of the self by linking the longstanding literature on behavioral confirmation (cf. Darley & Fazio, 1980; Merton, 1948) with relatively newer work concerning pursuit of the ideal self (cf. Higgins, 1987; Markus & Nurius, 1986). Interdependence theory provides a useful bridge for linking these literatures, highlighting the ways in which day-to-day adaptations to a close partner may become embodied in relatively stable dispositions and behavioral tendencies (cf. Kelley, 1983; Rusbult & Van Lange, 1996). In this regard, it is notable that recent research and theory concerning the ideal-self construct has tended to emphasize the self-regulatory functions of the ideal self (cf. Higgins, 1996b). In the present research we complement existing work by examining an other-regulated feature of self movement toward the ideal self, exploring mechanisms that have been implied but seldom directly studied. The behavioral confirmation tradition, the self tradition, and the interdependence tradition collectively illuminate a congenial form of confirmation that sometimes emerges in the context of close interdependence: In close relationships, personal growth rests in part on the structure of interdependence. To some degree, personal growth can be construed as a collaborative process.

# Couple Well-Being

Is the Michelangelo phenomenon associated with enhanced vitality and adjustment in ongoing relationships? In the present work, couple functioning was operationally defined as (a) scores on the Dyadic Adjustment Scale (Spanier, 1976), a gold standard for assessing couple well-being in the clinical literature, and (b) later relationship status (ended vs. persisted), a rather unambiguous indicator of couple well-being. Consistent with the couple well-being hypothesis, Studies 1 through 4 revealed evidence that all three components of the Michelangelo phenomenon exhibited simple associations with concurrent and lagged couple well-being (see Tables 9 and 10). Also, Studies 1 and 2 revealed that earlier self movement toward the ideal self and earlier perceived partner behavioral affirmation are associated with change over time in couple well-being (see Table 10). Across-partner associations in Studies 1 and 4 corroborated these findings.

The results of mediation analyses revealed somewhat unexpected findings regarding the mediation of couple well-being. Findings from residualized lagged mediation analyses were inconclusive, possibly because there was insufficient change in the criteria to obtain reliable simultaneous estimates of the presumed proximal and distal predictors of couple well-being (see Table 10). Findings from the concurrent mediation analyses were more readily interpretable. Consistent with expectations, concurrent analyses revealed that when all three model variables were included in simultaneous regression analyses, coefficients for perceived partner perceptual affirmation declined substantially (see Table 9, Model 2). Inconsistent with expectations, however, the association of perceived partner behavioral affirmation with couple well-being was not mediated by self movement toward the ideal self: Concurrent mediation analyses revealed that in both two- and three-variable simultaneous regression analyses, coefficients for self movement toward the ideal self declined substantially, whereas coefficients for perceived partner behavioral affirmation remained strong (see Table 9, Models 2 and 3).

Although the functional value of behavioral affirmation seems clear, self movement toward the ideal self exhibited weaker than expected associations with couple well-being. It is possible that these findings are attributable to unreliable measurement of self movement toward the ideal self, in that reliability coefficients for this variable tended to be weaker than coefficients for other variables. At the same time, we believe that our measurement technique was valid: Participants listed the most important qualities of the ideal self, indicating whether they had moved closer to (or away from) each quality as a result of involvement with the partner. Our low reliability coefficients may be attributable to real differences in the extent of movement toward each of several ideal qualities. It is also possible that these findings are attributable to our participant populations: In Studies 1, 2, and 3 we examined college students' dating relationships. In relatively short-term relationships it may be difficult to discern the broader benefits of partner affirmation; indeed, there may have been insufficient time for substantial change in the self. (It is unfortunate that we did not measure this construct in Study 4, where we examined longer term marital relationships.) What is evident in dating relationships is whether the partner is behaving in such a manner as to bring about movement toward one's ideal over the long run.

Methodological considerations aside, it seems plausible from a substantive point of view that in understanding couple well-being, being on the road to wellness may be more critical than wellness per se. It is even possible that individuals look down the road in their relationships, perceiving future benefits of affirmation. For example, although Mary may not yet have realized substantial movement toward her ideal, she may anticipate the pleasure of being seen at her best and treasured for all the right reasons, and she may take delight in the fact that she is a better person in everyday interactions with John. In parallel manner, it is possible that individuals perceive future liabilities of disaffirmation. For example, Mary may feel unnerved because she is inept or awkward around John, or she may experience disquiet when John misses the point in his understanding of her goals and aspirations. As noted earlier, this point of view is optimistically at odds with the notion that well-being is enhanced to the degree that partners identify one another's weaknesses, painfully bringing them to one another's attention in such a manner that weaknesses cannot be ignored (Guggenbuhl-Craig, 1977). The present research reveals relatively good evidence that a hallmark of couple well-being is the ability and inclination of close partners to bring out the best in one another, not to identify the worst in one another.

If our analysis of partner affirmation is valid, the notion that self-expansion is unambiguously good for a relationship may be called into question (cf. Aron & Aron, 1997). We suggest that the self-other merger will yield negative consequences if such a merger involves the promotion of a self that is antithetical to one's ideals. As noted earlier, we suspect that it is not self-expansion per se but ideal self-expansion that promotes personal well-being and enhances couple vitality. Proponents of self-expansion theory probably would agree with us, in that the process whereby selves consolidate the expanded self has been described as involving varying effort, from relatively easy to exceedingly strenuous. Moreover, selves presumably choose to merge-or allow such a merger-with regard to a select few, perhaps seeking out partners with whom a self-other merger will yield an affirmation of the self's ideal (cf. Wetzel & Insko, 1982). It would be fruitful to pursue this line of reasoning in future work.

# Partner Verification, Partner Enhancement, and Partner Affirmation

In Studies 2 and 3 we assessed the correlates of perceived partner affirmation in comparison with perceived partner verification and enhancement. In Study 2 we obtained parallel measures of affirmation and verification, and in Study 3 we obtained parallel measures of affirmation, verification, and enhancement. Although all three variables tended to exhibit simple associations with self movement toward the ideal self and couple well-being, when we examined the simultaneous associations of these variables with each criterion, partner affirmation accounted for unique variance in both (a) self movement toward the ideal self and (b) couple well-being. Moreover, following a line of reasoning suggested by the verification point of view, we were concerned that partner positivity might be beneficial to selves with high self-regard but that partner positivity might be experienced as unpleasant or threatening by selves with low self-regard. Consistent with expectations, findings from Studies 2 and 4 revealed that (a) affirmation accounted for unique variance beyond self-esteem level, and (b) the associations of affirmation with personal and couple wellbeing were not significantly moderated by self-esteem. These findings do much to illustrate the importance of partner affirmation, demonstrating the independence of the affirmation, verification, and enhancement constructs.

*Verification and affirmation.* Despite our efforts to rule out partner verification as an explanation of our findings, we believe that effective partner affirmation may rest in part on verification, in that reality presumably constrains the benefits of affirmation.

Indeed, Study 2 within-participant analyses revealed that both affirmation and verification accounted for unique variance in movement toward the ideal self and in couple well-being. Presumably, we want our partners to see the best that we realistically can be. Within the range of variation examined in the present work, few partners appeared to stray beyond the constraints of reality (e.g., we know of no instances in which partners urged their loved ones to pursue Olympic gold medals). In the final analysis, the art of sculpting may rest on a combination of affirmation and verification, reflecting the ability to sculpt toward a form that is (a) congruent with the self's ideals and (b) compatible with the self's realistic potential.

Enhancement and affirmation. Our analysis of affirmation is intended to bring focus to work regarding enhancement and positive illusion in close relationships. This analysis sharpens existing conceptualizations in two respects. First, we suggest that the key to well-being is partner positivity that is congruent with the ideal self. Although researchers who study partner enhancement probably would tend to agree with this claim, such an analysis has not been explicitly proffered. Second, most research on illusion in close relationships has emphasized the benefits of positivity for the individual who holds exalted perceptions. For example, it has been argued that "individuals [need] to construct idealized images of their partners to sustain feelings of confidence and commitment in the face of disappointing realities" (Murray & Holmes, 1996, p. 91). We suggest that partner positivity may be beneficial to both the partner who exhibits affirming perception and behavior and the self whose ideal image is affirmed. Indeed, recent research on partner idealization begins to suggest such an analysis, noting the ways in which partner positivity may be prescient (Murray et al., 1996b).

Thus, we do not wish to suggest that enhancement and verification are irrelevant to personal well-being and couple well-being. A sizable empirical literature testifies to the functional value of both phenomena (e.g., Murray et al., 1996a, 1996b; Rusbult, Van Lange, et al., 1998; Swann et al., 1994; Swann & Predmore, 1985; Van Lange & Rusbult, 1995). (Indeed, the present research revealed that both affirmation and verification may account for unique variance in movement toward the ideal self.) Our goals in the present work were (a) to demonstrate that the benefits of partner affirmation are not attributable to associations with other partner-based interdependence processes and (b) to sharpen existing conceptualizations of verification and enhancement phenomena.

#### Limitations and Strengths

Before concluding it is important to comment on some limitations and strengths of this work. First, Studies 1, 2, and 4 could be criticized for their reliance on traditional self-report measures. At the same time, all three studies demonstrated a consistency of findings in across-partner analyses (for Study 2, in participantfriend analyses). Also, Study 2 was designed to rule out self-report bias as an explanation of our findings; most Study 2 analyses revealed evidence consistent with our model, even in tests using the participant's data as criteria and the friend's data as predictors. In addition, in Study 3 we used a measurement method that differed from that applied in the other three studies, revealing that (a) most findings from Studies 1, 2, and 4 are evident even when we use a very different measurement technique and that (b) the observed associations among key model variables are not attributable to either of the components of a variable. Nevertheless, alternative explanations of our findings could be advanced, and future researchers should seek to rule out the possibility of thirdvariable causation.

Second, it is important to note that our measures of partner affirmation tapped self-reported affirmation rather than partnerreported affirmation. As noted earlier, we adopted this approach because we believe that partner affirmation frequently results from unconscious and automatic processes. Accordingly, we reasoned that the self would be in a better position than the partner to report on partner affirmation. The Study 2 participant-friend consistency in descriptions of partner affirmation suggests that the Michelangelo phenomenon represents more than a simple perceptual artifact and that this phenomenon, to some degree, reflects real circumstances of interdependence. Nevertheless, in future work it would be helpful to develop behavioral measures of affirmation—for example, to measure tendencies toward partner affirmation during videotaped conversations in which close partners discuss their personal goals and aspirations.

Third, our work could be criticized for its reliance on correlational evidence. Such data do not allow for inferences regarding cause and effect. Studies 1 and 2 revealed fairly reliable associations of behavioral affirmation with change over time in self movement toward the ideal self and couple well-being. Such evidence begins to allow for more confident causal inferences, although such associations nevertheless may have resulted from extraneous, unmeasured variables. More generally, however, we believe that models of unidirectional cause and effect fail to capture the realities of interdependence in ongoing relationships. For example, it would be myopic to assume that partner affirmation exerts causal effects on self movement toward the ideal self but that self movement toward the ideal self exerts no causal effects on partner affirmation. Witnessing a loved one achieve some movement toward his or her dreams must surely inspire increased encouragement on the part of the partner. We believe that in ongoing relationships, variables earlier in a causal chain may exert effects on later variables, which in turn feed back on earlier variables in a pattern of mutual cyclical growth. Such mutual cyclical causation could have considerable functional value in a generally healthy relationship.

Fourth, it is important to note that our work was conducted in the United States and that we examined participants who may have strongly adhered to the ideology of individual growth (i.e., college students in Studies 1, 2, and 3). In future research it will be important to assess the degree to which our findings are confirmed in relatively more communal cultures that place somewhat less emphasis on the self per se and place more emphasis on the self's position in relation to family and society (cf. Markus & Kitayama, 1991). In addition, in future work it will be important to determine whether the Michelangelo phenomenon applies to nonromantic relationships as well as to romantic relationships.

Some strengths of this work should also be noted. First, measures of model variables exhibited adequate reliability and good test-retest consistency and were not unduly associated with measures of socially desirable responding. Second, our measures exhibited good validity, as revealed through across-partner and participant-friend agreement regarding key variables. Third, Study 4 demonstrated the generalizability of our findings to marital relationships. Fourth, Studies 1 through 4 revealed a convergence of findings across somewhat diverse methods and populations.

#### **Conclusions**

In the present research we incorporated concepts from the behavioral confirmation tradition, the self tradition, and the interdependence tradition to identify a process termed the Michelangelo phenomenon. This phenomenon describes 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. The results of four studies suggest that the three components of this phenomenon-perceived partner perceptual affirmation, perceived partner behavioral affirmation, and self movement toward the ideal self-relate to one another in predicted ways. Our results suggest that perceived partner behavioral affirmation may play a particularly powerful role in shaping both personal well-being and couple well-being. The present research also demonstrates that partner affirmation accounts for unique variance in key criteria beyond partner verification, partner enhancement, and self-esteem. Such findings extend our understanding of the social nature of the self, highlighting one mechanism by which adaptation to interdependence structure shapes everyday experience.

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# **Call for Nominations**

The Publications and Communications Board has opened nominations for the editorships of *Behavioral Neuroscience, JEP: Applied, JEP: General, Psychological Methods*, and *Neuropsychology* for the years 2002–2007. Michela Gallagher, PhD; Raymond S. Nickerson, PhD; Nora S. Newcombe, PhD; Mark I. Appelbaum, PhD; and Laird S. Cermak, PhD, respectively, are the incumbent editors.

Candidates should be members of APA and should be available to start receiving manuscripts in early 2001 to prepare for issues published in 2002. Please note that the P&C Board encourages participation by members of underrepresented groups in the publication process and would particularly welcome such nominees. Self-nominations are also encouraged.

To nominate candidates, prepare a statement of one page or less in support of each candidate. The search chairs are as follows:

- Joe L. Martinez, Jr., PhD, for Behavioral Neuroscience
- Lauren B. Resnick, PhD, and Margaret B. Spencer, PhD, for JEP: Applied
- Sara B. Kiesler, PhD, for JEP: General
- Lyle E. Bourne, Jr., PhD, for Psychological Methods
- Lucia A. Gilbert, PhD, for Neuropsychology

Address all nominations to the appropriate search committee at the following address:

[Name of journal] Search Committee c/o Karen Sellman, P&C Board Search Liaison Room 2004 American Psychological Association 750 First Street, NE Washington, DC 20002-4242

The first review of nominations will begin December 6, 1999.