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Thinking of You: Nonconscious Pursuit of Interpersonal Goals Associated With Relationship Partners

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Abstract

The mere psychological presence of relationship partners was hypothesized to trigger interpersonal goals that are then pursued nonconsciously. Qualitative data suggested that people tend to pursue different interpersonal goals within different types of relationships (e.g., mother, best friend, coworker). In several studies, priming participants' relationship representations produced goal-directed behavior (achievement, helping, understanding) in line with the previously assessed goal content of those representations. These findings support the hypothesis that interpersonal goals are component features of relationship representations and that mere activation of those representations, even in the partner's physical absence, causes the goals to become active and to guide behavior nonconsciously within the current situation.

Many of people's most strongly held goals, fears, and desires spring from their ongoing close relationships. Friends, family members, colleagues, and romantic partners are those whom people try hardest to understand, to whom they wish to grow closer, and from whom they seek to gain approval. Relationship partners are the elicitors of strong and influential motivations—motivations that alter people's perceptions, change their emotions, and guide their behavior.

Given the importance of such motivational forces in daily life, it is essential that we understand the process by which relationship partners evoke these powerful goals. Theorists have suggested that interpersonal goals exist as component features of the cognitive representations of relationship partners (Miller & Read, 1991; Shah, Kruglanski, & Friedman, in press). Additionally, research has shown that goals are cognitive representations (e.g., Bargh, 1990; Kruglanski, 1996) and can thus be nonconsciously triggered by situational features and then pursued without conscious guidance (Bargh, Gollwitzer, Lee-Chai, Barndollar, & Trötschel, 2001; Chartrand & Bargh, 1996). On the basis of this theory and research, we hypothesize that the mere psychological presence of relationship partners can trigger interpersonal goals and that these goals can then operate outside of awareness to influence perception and behavior. Through a set of experiments, we aim to demonstrate that relationship partners are indeed so important and powerful that they can affect an individual's interpersonal motivations even when the individual is alone or with a complete stranger.

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Interpersonal Goals and the Mental Representation of Relationship Partners

Several theoretical models present convergent ideas about how relationships are cognitively represented and about how these representations can become automatically activated and influence emotion, motivation, and behavior (Andersen & Cole, 1990; Andersen & Chen, in press; Aron, Aron, Tudor, & Nelson, 1991; Baldwin, 1992, [1995]; Chen, 2001; Hazan & Shaver, 1987; Holmes, 2000; Miller & Read, 1991; Park, 1986; Planalp, 1987). As a relationship develops over time, people are hypothesized to construct ever more detailed mental representations of their partner, of themselves with their partner, and of the relationship itself (Andersen & Cole, 1990; Baldwin, 1992; Miller & Read, 1991). Such mental representations have been termed *relational schemas* (Baldwin, 1992; Planalp, 1987) and are hypothesized to include a *self-schema*, which contains information about the self when with a relationship partner; an *other schema*, which contains information about the partner, and an *interpersonal script*, which represents regularized interaction patterns with that partner. In the attachment literature, related theories have emerged about the structure of mental models of relationships, referred to as *internal working models* (see Shaver, Collins, & Clark, 1996, for a review).

Evidence for the importance and influence of such relational representations has been accumulating over the past 15 years. In a seminal set of experiments, graduate students evaluated their research ideas more negatively after being subliminally exposed to the face of their scowling department chair (Baldwin, Carrell, & Lopez, 1990). From these findings, Baldwin et al. (1990) concluded that people's self-evaluations can be nonconsciously affected by the psychological presence of a significant other.

Like Baldwin et al. (1990), much of the research on relational representations has emphasized cognitive and affective information about the self or others (e.g., Andersen, Glassman, & Gold, 1998; Baldwin et al., 1990; Baldwin & Holmes, 1987; Mikulincer & Arad, 1999; Mikulincer & Shaver, 2001). The concept of goals has not yet received significant attention in theories about the structure of relationship representations, although several theorists have suggested that these representations may indeed have motivational components—including information about needs, goals, and plans involving the relationship (Miller & Read, 1991; Park, 1986; Trzebinski, 1989). Recent research has provided initial support for the inclusion of goal constructs in the structure of relationship representations. For example, interpersonal goals to pursue intimacy, security, and control in dating relationships were shown to be related to the endorsement of secure, anxious–ambivalent, and avoidant attachment styles, respectively (Mikulincer, 1998), suggesting that working models of attachment may include goal constructs. Furthermore, when representations of significant others were unobtrusively activated, people were more likely to approach a person who resembled a positive significant other and to avoid a person who resembled a negative significant other (Andersen, Reznik, & Mandella, 1996). Andersen and colleagues proposed that within a context of transference, an activated relational representation is applied nonconsciously to a new individual who in some way resembles an important relationship partner (e.g., Berk & Andersen, 2000; Hinkley & Andersen, 1996). The current studies seek to support and extend these findings by examining whether relationship partner representations can automatically activate goals even in the physical absence of a person who resembles a current or past relationship partner, and to examine specific interpersonal goals rather than more global motives.

More evidence for the inclusion of goal-related information in relational representations comes from recent research on goal systems theory (Shah et al., in press), which demonstrates that people's plans and behavior can be influenced by the activation of

representations of relationship partners. For example, after subliminal exposure to the name of someone who would want them to do well on a test, participants performed better than did those who were exposed to the name of someone who would not want them to do well on a test (Shah et al., in press). Shah and colleagues proposed that when an individual is reminded of a relationship partner, that partner's goals and standards for the individual's behavior are activated and influence how the individual behaves (see also Baldwin & Holmes, 1987; Moretti & Higgins, 1999). In the present set of studies, we examine how one's own interpersonal goals, rather than those of a partner, can become activated by a relationship partner and influence social perception and behavior. Of course, given the interdependent nature of relationships, one's own interpersonal goals are likely to be strongly related to one's perceptions of the goals and standards of the partner, and the activation of a relational representation may make the goals and standards of the partner more accessible as well (Holmes, 2000). In designing these initial studies, we attempted to focus on how relational representations can influence people's tendency to pursue interpersonal goals that they report as their own; however, it is important to recognize the mutual constitution and interdependence of these relational constructs.

We also intend to emphasize the nonconscious processing of interpersonal goals. Because interactions within relationships often follow well-repeated and routinized scripts, relational representations are likely to often function automatically (i.e., without conscious awareness, choice, or guidance) to guide much of the interaction that occurs within the interpersonal context (Andersen & Cole, 1990; Baldwin, 1992; Berscheid, 1994; Collins & Read, 1994; Scott, Fuhrman, & Wyer, 1991). For example, Fletcher, Rosanowski, and Fitness (1994) found that chronic relationship beliefs influenced judgments about a relationship even under conditions of heavy cognitive load—when deliberative, effortful thought is precluded—suggesting that relationship cognitions can exert their influence automatically. Indeed, in several of the above-mentioned experiments (Andersen et al., 1996; Baldwin et al., 1990; Shah et al., in press), relationship partners were shown to have the power to influence individuals even when these individuals were not with their partners or even consciously thinking about them: Activation of the relational representation occurred outside of awareness, suggesting that these representations may have powerful automatic effects on a multitude of interpersonal phenomena (Berscheid & Reis, 1998).

Automatic Goal Pursuit

Although many goals that people pursue, in and out of relationships, are consciously chosen and guided (Bandura, 1986; Carver & Scheier, 1998; Deci & Ryan, 1985), these are not necessary preconditions for goal-directed behavior. Recent research on the *auto-motive model* (Bargh, 1990; Bargh & Chartrand, 1999) suggests that the complete sequence of goal pursuit can occur entirely outside of conscious awareness. Goals are hypothesized to be represented mentally, just as are other cognitive constructs (Bargh, 1990; Bargh et al., 2001; Hull, 1931; Kruglanski, 1996; Tolman, 1932), and are thus capable of activation by situational cues in the same fashion that trait concepts and stereotypes have been shown to be activated (Bargh, 1994; Dijksterhuis & Bargh, 2001; Greenwald & Banaji, 1995; Higgins, 1996). That is, associative connections are hypothesized to develop between cognitive constructs—such as goals or traits—and features of those environmental situations in which the constructs are typically activated and used. Eventually, in the presence of the chronically associated situational features, the goal becomes activated automatically (see Bargh & Chartrand, 1999). Following its activation, the nonconscious goal is hypothesized to operate without need for conscious guidance to influence thought and behavior within that situation.

Recently, empirical evidence has accrued in support of the hypothesis that goals can be activated and pursued nonconsciously (Chartrand & Bargh, 1996; Bargh et al., 2001). In a recent set of experiments, social–behavioral goals were activated through sub-and supraliminal priming manipulations and were found to guide subsequent behavior (Bargh et al., 2001). For example, after being primed by words related to achievement in a word search puzzle, participants performed better on a verbal task than did those who received neutral primes. Over five experiments, nonconscious goals were shown to guide perceptions and behavior over extended time periods and to manifest classic qualities of conscious goal pursuit, such as resumption of an interrupted goal pursuit and persistence at the goal in the face of obstacles.

The Present Research

Before we outline our experimental designs and hypotheses, it is important to specify what we mean by *interpersonal goals*. For our purposes, interpersonal goals are defined as goals to attain, maintain, or avoid a specific end state for the partner or the relationship, such as to help the partner, maintain closeness, or avoid rejection. Although other goals, directed at the self and other aspects of the environment, may become associated with one's relationship partners, the present studies examine the operation of goals that are fundamentally concerned with the relationship itself.

We hypothesize that goals—as cognitive constructs—are constituent components of the mental representations of relationship partners and are thus activated whenever the relational representation is activated, in an all-or-none fashion (see Hayes-Roth, 1977). As Miller and Read (1991) have argued, "the mere presence of the partner may activate goal-based structures that are unique to a particular relationship" (p. 77). Indeed, we propose that this process can occur even in the physical absence of the partner—that is, the mere psychological presence of the partner may suffice to activate relationship goals that are components of that particular relational schema, goals that then influence perception and behavior in a nonconscious fashion.

We report a set of studies that test our hypotheses. First, we collected qualitative data to determine whether relationship types differ in terms of the interpersonal goals commonly associated with them. On the basis of these findings, the first study assesses whether people show more goal-directed helping behavior toward a stranger after the mental representation of a friend is activated, rather than that of a coworker. The second study examines whether these behavioral effects are attributable, as hypothesized, to differential goal accessibility by manipulating the activation of relational representations and then measuring the degree to which a particular goal category is used in the perception and interpretation of a target's motives. The third study primes representations of participants' best friend (for half of the participants); for participants who report a goal to understand the causes of the friend's behavior, this goal is hypothesized to be primed and to thus influence attributions made for the friend's behavior. The final study is a conceptual replication of the third, focusing on a different relationship partner (mother) and associated goal (making the mother proud) and using premeasures of the goal as well as a behavioral measure of goal pursuit.

Qualitative Data: Regularities in Interpersonal Goals Pursued Within Relationship Types

As a necessary first step in testing our hypotheses about automatic relationship-goal pursuit, we examined the content of relationship goals and their associations with different relationship types. In a free-response format, we asked participants to indicate what interpersonal goals they pursued with various relationship partners. These data then formed

the basis for normative predictions about relationship-goal activation effects in the subsequent experiments; the main purpose of this data collection was not to create a typology of goals within relationships but rather to generate frequencies that could be used for later studies.

Method

Participants—Three hundred fifty-four (116 men and 238 women) New York University introductory psychology students completed a questionnaire battery for partial fulfillment of a course requirement. Ages ranged from 17 to 33 years, with a mean age of 19.0.

Materials and Procedure—The questionnaire was included in a battery of measures given to participants as part of a mass-testing session at the beginning of the university semester. Participants were informed that the questionnaire concerned the various goals that people have with the other people in their life. To facilitate responses, we gave examples of interpersonal goals that someone might have with a basketball coach (i.e., to impress the coach with abilities, to show the coach that he or she is working hard). The questionnaire then asked participants to list two to four interpersonal goals that they typically pursue with each of the following people: their mother, best friend, romantic partner, roommate, and classmate.

Because the questionnaire generated free-response data, we developed a coding system to classify the goals listed by the participants into a manageable number of categories. We created a list of 13 goal categories that accounted for a majority of the responses given and then sorted the responses into the different categories. If a response could not be sufficiently described by any of the 13 categories, it was coded as “other.” The categories are described in the Appendix.[1] The data were coded separately by two experimenters, with an initial intercoder agreement of 83%. All disagreements were resolved through discussion.

Results and Discussion

Frequencies were tabulated for each goal category within each relationship type. Because some relationships were more frequently experienced than were others (for example, 351 students had a relationship with their mother, whereas 167 students had romantic relationships), percentages were calculated to represent the number of participants who listed a certain goal out of the total sample of respondents for that relationship type.

As is evident from Table 1, there were regularities in what kinds of interpersonal goals people said they generally pursued within different relationship types. For example, whereas nearly half of the participants (41.9%) spontaneously reported a goal “to succeed so I can make my mother proud,” less than 1% of the students reported a similar goal with either their friend or their romantic partner. Self-presentational goals were frequently reported with classmates (28.2%) but rarely reported with friends (5.9%), roommates (3.2%), or romantic partners (6.0%). Fully 12% of participants reported wanting to enjoy their best friend’s company and have a good time together, but only 1.7% conveyed that they wanted to enjoy their mother’s company.

Thus, there appear to be regularities across individuals as to the kinds of interpersonal goals they report pursuing within common types of relationships. It should be noted that our descriptive coding scheme was designed to allow us to generate predictions about how

[1]The goal categories used for coding these data should not be considered a theoretical taxonomy of goals—rather, they are simply descriptive of the data we collected from these participants. The goals reported are unlikely to represent universal relationship motives; many of them are likely unique to this particular stage of life.

relational primes may affect people in a normative fashion, not to provide a theoretical catalogue of interpersonal goals. Furthermore, perhaps because of the explicit nature of the free-response task, participants largely reported positive and simple interpersonal goals, not the multiplicity of goal types that various theories would predict, such as attachment-related goals. These limitations notwithstanding, these data provide useful information for further studies, namely idiosyncratic information about participants' goals within relationship types (to be used in Study 4a) and grounds for making normative predictions on the basis of manipulations of activated relationship representations (used in Studies 1 and 2a).

Study 1: Effects of Priming a Relationship Goal on Helping a Stranger

In this experiment, normative information from the free-response data was the basis for predictions about how willing people would be to help a stranger following unobtrusive manipulations designed to activate representations of different types of relationship partners. In the free-response data, many people reported a goal to help their friends (24.7%), but few reported wanting to receive help in exchange from their friends (5.0%). In contrast, although many participants indicated that they wanted to help their classmates (21.8%), many also indicated they wanted to receive help from their classmates (22.7%); nearly all mentions of helping classmates were paired with mentions of receiving help in exchange (see Mills & Clark, 1994). To extrapolate these findings to an experiment conducted in a public setting in which the participants were more likely to have coworkers than classmates, we compared the nonconscious goal pursuit effects of activating representations of a friend versus those of a coworker.

From these data as well as from the hypothesis that activating mental representations of relationship partners also activates the motivations that are chronically associated with those representations, it follows that participants are likely to have an activated helping goal after thinking of a friend. Because the experimental context provided no opportunity for the participant to receive any self-benefit from helping the stranger, we predicted that thinking of a coworker would not activate a similar helping goal. We hypothesized that once such an interpersonal goal was activated, it would operate nonconsciously to affect behavior toward another person—even outside of the context of the particular relationship being primed. Thus, participants should be more willing to help a stranger after thinking of a friend than after thinking of a coworker. In Study 1, people at a large international airport were approached and asked to complete a short questionnaire. The questionnaire was a supraliminal priming task, consisting of a set of questions designed to activate a mental representation either of a friend or of a coworker (e.g., Dijksterhuis & van Knippenberg, 1998; Macrae, Stangor, & Milne, 1994). These were followed by several questions that assessed the degree to which participants were willing to help the experimenter by taking part in further studies.

Method

Participants—Thirty-four travelers at a large U.S. airport participated (19 men and 15 women). Of the 35 people approached, 1 declined participation. One participant opted to discontinue participation after completing only half of the questionnaire; thus, all analyses were performed on data from the remaining 33 participants.

Materials and Procedure—Participants were recruited from the departure gate area of the airport. An experimenter approached travelers who were seated alone in the waiting area and asked whether they were willing to fill out a one-page questionnaire. The experimenter informed participants that the questionnaire measured how much people typically know about other people in their life, that the questionnaire would take 1 min, and that they were

free to cease completing the questionnaire at any time. If the person consented to participate at this point, the experimenter gave him or her a blank envelope that contained the questionnaire, indicated that she would be back in a moment to collect the completed questionnaire, and walked away.

Participants were randomly assigned to one of two possible priming conditions, which differed only in terms of which questionnaire they received; otherwise, participants were treated identically across conditions. The experimenter was unaware of experimental condition when distributing the envelopes (as they were blank and did not indicate condition) and said nothing further to the participants until they finished completing the questionnaire.

The questionnaire was entitled either “Friend Study” or “Coworker Study.” In the friend condition, participants were asked to think of a good friend whom they know quite well and with whom they do not work. In the coworker condition, they were asked to think of a coworker whom they know quite well, with whom they have a positive relationship, and who is approximately equal in terms of status at work (i.e., not a supervisor nor a subordinate) but who is not a friend outside of work. These criteria were intended to minimize differences between the priming conditions other than the focal, intended difference.

In both priming conditions, participants then were instructed to write down the initials of the person of whom they were thinking and to answer eight questions that allegedly measured how well the participant knew the person. The questions were designed to be easy to answer but require some visualization or deliberative thought. The first asked for a vivid description of the person’s appearance; others asked about the length of time the participant had known the person and the person’s approximate age, hobbies, career objectives, and so on. The questions were intended to be equally easy for both groups: Indeed, pilot testing suggested that most people had no difficulty answering these questions about their coworkers or friends.

After answering the questions, participants read a sentence thanking them for completing the study and informing them that the experimenter was interested in their opinions on doing such studies in public places, allegedly for use in planning future studies to be conducted at the airport. The first question asked for participants’ hypothetical willingness to participate in a longer (10–15 min) study in the airport and was to be answered using a 9-point scale, ranging from 1 (*not at all*) to 9 (*completely*).[2] They were also asked whether they were willing to actually do a 10–15-min study immediately following completion of this study. To answer, participants circled *YES* or *NO*. Regardless of their response, no participant actually took part in a second study—on completion of the questionnaire, all participants were debriefed fully as to the hypothesis and nature of the actual experiment. After explaining the predictions, the experimenter asked participants whether they believed that the first task had indeed influenced their willingness to help—that is, whether they thought that thinking about their friend or coworker had perhaps made them more or less willing to help than they would normally be. Last, participants were thanked for their participation, and a written debriefing form was administered.

[2]Two other questions were asked whose results are not directly relevant to this article and are thus not included. The second question asked for participants’ hypothetical interest in participating in an airport study that involved sharing personal experiences, thoughts, and feelings; the third asked for their hypothetical interest in participating in an airport study that involved working on a difficult, competitive task. Both were answered using the same 9-point scale.

Results

Those in the friend-priming condition were more likely to volunteer help than were those in the coworker-priming condition. We performed a chi-square test to determine whether priming condition had affected participants' willingness to do an immediate second study. As predicted, those in the friend-priming condition were significantly more likely to agree to do another study than were those in the coworker-priming condition, $\chi^2(1, N = 33) = 4.16$, $p = .04$. As shown in Table 2, 9 out of 17 participants in the friend-priming condition agreed to do a second study, versus 3 out of 16 in the coworker-priming condition.

Also as predicted, an analysis of variance (ANOVA) test revealed that there was a main effect of priming condition on participants' willingness to do a hypothetical longer future study, such that those in the friend-priming condition were significantly more willing ($M = 6.29$) than were those in the coworker-priming condition ($M = 3.44$), $F(1, 33) = 13.62$, $p = .001$ ($\eta_p^2 = .32$). Gender had no main effect on reported willingness but did interact with priming condition, $F(1, 33) = 4.88$, $p = .04$ (η_p^2 of interaction = .14), indicating that men were more willing to help in the friend-priming condition ($M = 7.11$) than were women ($M = 5.38$) and less willing to help in the coworker-priming condition ($M = 2.78$) than were women ($M = 4.29$). Although means for both groups followed the predicted pattern of results, men appeared to be more affected by the primes than were women.

As an awareness check, after debriefing, the experimenter asked participants whether they felt that the first task could have influenced their performance on the second task in some way and, specifically, whether it could have affected their willingness to help the experimenter. No participant reported such a belief. Many spontaneously reported reasons for their responses, saying that they were just very busy and did not have time to do another study or that they were "just helpful" people, or they referred to qualities of the experimenter, saying, for example, that she just seemed like a nice girl.

Discussion

Participants in this study were significantly more willing to help an experimenter if they had just answered a few questions about a friend than if they had answered the same questions about a coworker. These data are consistent with our hypothesis that merely activating representations of relationships can affect subsequent goal-directed behavior in that situation. Activating a representation of a friend caused the goal to help—shown in qualitative data collection to be normatively associated with one's friends—to be more likely to become active and guide subsequent behavior. The effect of the activation of the friend representation on the probability of subsequent helping was dramatic: Three times as many people in the friend-priming condition as in the coworker-priming condition were willing to help the experimenter by immediately doing another study for her.

It is critical that participants showed no knowledge or awareness of these effects—when told of the hypotheses of the study, for example, most reacted with some degree of incredulity. Indeed, after hearing the suggestion that being asked about his friend may have caused him to be more helpful than he might normally have been, one quite skeptical participant retorted, "I don't care if you'd asked me about Mother Teresa!" The effects of the activation of a friend or coworker representation on the choices and behavior of the participants did not appear to be conscious or intended on their part. Of course, the nature of field studies necessitates that full awareness checks (which are quite demanding of our volunteer participants' time) were not performed; however, the following experiments did include more stringent tests of participants' awareness of the relationship between the primes and their behavior.

Although these results are consistent with our hypotheses, alternative explanations are possible. First, it is conceivable that a mood effect could explain the data, in that people may have been happier and thus more willing to help after thinking of their charming friends versus their horrid coworkers. We attempted to avoid such a problem by asking participants only to think of coworkers with whom they had a positive relationship and whom they knew well. Still, it is not unlikely that activating representations of relationship partners also activates associated information about the contexts in which we most often encounter them. As people tend to encounter their friends at parties, ball games, restaurants, and other relaxing, recreational settings—and, by contrast, they encounter their coworkers at the office—a greater amount of positive affective material in memory could well have been activated in the friend than in the coworker condition. Alternatively, the coworker prime could have activated workplace norms that could have contributed to the inhibition to help—people rarely volunteer to do something for nothing in the workplace.

Given these viable alternative interpretations, particularly the potential mood confound, the results of this initial field study are perhaps best thought of as suggestive evidence for our proposed psychological process and are certainly best considered in the context of the following studies. Two of the additional experiments (Studies 2b and 4a) include mood measures and can thus explicitly address any potential mood effects of priming relational representations. The controlled laboratory designs of Studies 2–4 allow us to more definitively demonstrate that thinking of a relationship partner, even in the physical absence of that partner, can make related interpersonal goals more accessible and influential.

Study 2a: Goal Accessibility as a Mediator of Relationship Representation Effects

In Study 1, behavioral differences resulted from the activation of representations of different types of relationship partners. Although these data are consistent with our proposed mechanism—nonconscious goal activation—they do not directly speak to the changes in goal accessibility that are presumed to underlie the behavioral effects. Thus, in Study 2a we sought evidence bearing on the hypothesized mediating mechanism: That is, we aimed to demonstrate that differential goal accessibility results from activating different relationship representations. Considerable research has shown that accessible, relevant trait categories affect perceptions of the qualities of a new person (for reviews, see Bargh, 1989; Higgins, 1996). Similarly, accessible goal categories relevant to a target's behavior should also affect perception and interpretation of the target person (see Bargh, 1990; Trzebinski, 1989). Thus, as in person perception research (Higgins, 1996), we examined priming effects on perceptions of a target person as an indirect measure of the accessibility of goal constructs.

Specifically, we tested whether participants' perception of the motivation of a target character to succeed at school were different after they completed a short task designed to activate representations of either their mother or their friend. We predicted that participants would indicate that the target possessed more motivation to succeed at school in the mother-priming condition than in the control and friend-priming conditions, because the goal to succeed at school is likely part of the representation of one's mother (see Qualitative Data section) and unlikely to be part of the representation of a friend. The comparison of the mother-primed with the friend-primed condition was intended to equate the conditions in terms of the positive affect or mood potentially elicited by the primes, to help rule out differential affect or mood as an alternative account of the results. Moreover, we included a neutral-primed control condition to better assess the directionality of the obtained effects.

Method

Participants—Two hundred ninety New York University undergraduates participated as part of a mass-testing session (212 women and 73 men; 5 students did not indicate gender). Ages ranged from 17 to 27 years, with a mean age of 18.77. Ninety-six participants received the control questionnaire, 98 received the mother-prime version, and 96 received the friend-prime questionnaire.

Materials and Procedure—This task was included in a battery of tasks and measures given to participants at the beginning of the university semester. Participants completed the booklet of tasks in a large lecture hall.

In the control condition, participants read instructions to read a short vignette and then answer the questions that followed. The vignette read,

> Mark is just entering his second year of college. In his first year, he did very well in some classes but not as well in others. Although he missed some morning classes, overall he had very good attendance. His parents are both doctors, and he is registered in pre-med, but he hasn't really decided if that is what he wants to do.

Below the vignette was a set of four questions regarding the extent to which Mark was motivated to succeed; the questions were to be answered on a 9-point scale from 1 (*not at all*) to 9 (*extremely*). They asked how motivated Mark was to succeed at school, how important it was for him to succeed, how much he cared about succeeding, and how much he cared about meeting his family's expectations. The final question asked participants to use the same scale to indicate whether Mark thought it was more important to enjoy life (1) or achieve great things (9).

In the mother- and best friend-priming conditions, the vignette task was preceded by a short relationships questionnaire that allegedly looked at perceptions of other people. This questionnaire asked participants to form a vivid image of their mother or best friend in their mind and then to describe his or her appearance in a couple of lines. The questionnaire then asked participants to indicate what the mother or best friend would say was the participant's own greatest strength and also what the participant thought was the other's greatest strength. As in Study 1, this task was designed to activate the participant's mental representation of the particular relationship partner.

Results and Discussion

To assess the effect of priming condition on mean ratings of the target's motivation to succeed at school, we created a composite score that was the mean of the five responses. The five items were highly intercorrelated, with a coefficient alpha of .77.

A one-way ANOVA of priming condition on ratings revealed a significant main effect, $F(1, 284) = 6.53$, $p = .002$ ($\eta_p^2 = .05$). Figure 1 displays the pattern of results. As predicted, those in the mother-priming condition rated the target, Mark, as more motivated ($M = 6.11$) than did those in the control condition ($M = 5.80$) or those in the friend-priming condition ($M = 5.56$). Gender did not influence the ratings nor interact with priming condition (Fs < 1.20). Planned contrasts showed that the mother and control conditions were significantly different from each other ($p < .05$), as were the mother- and friend-priming conditions ($p < .001$). Those in the friend-priming condition did not significantly differ from controls ($p > .10$).

These results contribute to our understanding of the mechanism underlying the behavioral effects shown in Study 1. The activation of a relational representation also appears to activate a goal construct presumed to be a component feature of that representation, as

indicated by the activated goal construct's effect on the interpretation of a target person's motivations. Because activation of the mother representation increased the accessibility of the participant's own goal to succeed at school to make Mom proud, the participant consequently perceived Mark as possessing a stronger motivation to succeed at school than did the other participants. Priming friend representations, on the other hand, did not have the same effect: Because of the generally different goals contained in representations of friends (see the Qualitative Data section), participants in the friend-priming condition did not significantly differ from nonprimed control participants in their ratings of the target person's degree of motivation to succeed.

In addition to showing the effects of priming relationship partners on perceptions of motivation, this study also addresses several concerns raised in reference to alternative explanations of Study 1's findings. First, differential goal accessibility was demonstrated through very practiced and traditional person perception methodologies. Also, because friends and mothers are both positive relationship partners but only mother primes influenced people's perceptions of a target's motivation, mood effects are not a compelling interpretation of these data. In addition, it is not intuitively obvious whether positive or negative moods are more likely to increase the tendency to perceive a target as more motivated to excel at school. In the replication of Study 2a, reported below, we included a direct mood measure to directly examine whether mood is affected by the primes and may affect interpretation of the target.

Study 2b: Replication of Study 2a

The vignette in Study 2a included a potentially problematic reference to the target's parents as doctors. This reference may have in itself activated participants' mother representations, such that the condition differences may have been due to a piggybacking of goal accessibility effects (see Bargh et al., 2001, Study 2). To ensure that the differences between the mother and friend conditions were due to the influence of the primes alone and not to an interaction between the prime and information in the vignette, we conducted a replication of Study 2a with the removal of the reference to the target's parents. We also added a one-item mood measure to determine whether mood could account for the differences between the groups.

Method

Participants—Thirty-seven undergraduate students from Stanford University completed this questionnaire as part of a mass-testing session; 17 received the mother-prime version, and 20 received the friend-prime version.

Materials and Procedure—Materials and procedure were identical to those of Study 2a, with three exceptions: (a) The phrase "Mark's parents are both doctors" and the question "How much does Mark care about meeting family expectations?" were removed; (b) a one-item mood measure was added, which read, "Please rate your general mood right now on the following scale"; the scale ranged from 1 (*negative*) to 9 (*positive*); (c) because of sample size concerns, we included only the mother- and friend-priming conditions.

Results and Discussion

A composite score was again created that was the mean of the four responses. The four items were highly intercorrelated, with a coefficient alpha of .82. A one-way ANOVA of priming condition on ratings revealed a marginally significant main effect, $F(1, 35) = 3.71$, $p = .062$ ($\eta_p^2 = .10$). As we found in Study 2a, those in the mother-priming condition rated the target, Mark, as more motivated ($M = 6.52$) than did those in the friend-priming condition

(M = 5.94). Gender did not influence the ratings nor interact with priming condition (Fs < 1.00). Mood did not differ according to priming condition (F < 1.00), nor did it correlate with motivation ratings (r = 0.16, p = .36).

These results support the findings and conclusions from Study 2a—that is, that the activation of a mother representation increased the accessibility of participants' own goals with their mother, as indicated by their interpretation of the goals of the target character. The results also indicate that mood does not seem to drive the effects of an activated relationship representation on interpretations of a target.

Study 3: Nonconscious Relationship-Goal Effects on Interpersonal Understanding

Studies 1 and 2 examine how priming different types of relationships affected goal accessibility and goal-directed behavior, in line with the normative goal content of those relationships. Study 3 focuses instead on idiosyncratic differences in interpersonal goals, holding the type of relationship constant—namely, one's relationship with one's best friend. In addition, whereas previous studies did not stringently test the participants' level of awareness of these effects, Study 3 uses a subliminal priming methodology to more fully establish the unintentional and nonstrategic nature of relationship-goal activation effects.

We classified participants into two groups on the basis of whether they had reported a goal to understand the reasons behind their best friend's behavior. Additionally, half of the participants were assigned to the friend-priming condition, in which they were subliminally presented with their best friend's name (see Baldwin, 1994). The other half were assigned to the control condition, in which they were perfectly yoked to the friend-priming participants (see Chen & Andersen, 1999). That is, they received the identical subliminal primes (i.e., of the yoked participant's friend's name), but these names were not the names of their own best friends.

All participants then completed an attribution task, designed to measure the extent to which participants were motivated to generate situational attributions for a target person's behavior (who was a stranger and not purported to be their friend or any acquaintance of theirs). The tendency to overestimate the causal role of dispositional relative to situational factors in explaining others' behaviors has been well documented (e.g., Gilbert & Malone, 1995; Ross, 1977). Recent research suggests that substantial cognitive effort may be necessary to overcome this tendency (e.g., Gilbert, Pelham, & Krull, 1988); indeed, accuracy motivation has been shown to increase the likelihood that one will use situational factors to explain an actor's behavior (Tetlock, 1985; Tetlock & Kim, 1987; Webster, 1993). People may be particularly motivated to find situational causes for a close relationship partner's behavior (Bradbury & Fincham, 1990); in fact, people have been found to make more situational attributions for their spouse than they make even for themselves (Fincham, Beach, & Baucom, 1987). Accordingly, we hypothesized that, when motivated to understand the causes of someone's behavior, individuals would tend to overcome their default tendency to make easy dispositional attributions and would instead generate more situational explanations for the behavior.

Thus, we predicted that those who were primed with their friend's name would generate more situational attributions for the presented target behaviors than would those in the control condition. This main effect finding would replicate similar findings in Studies 1 and 2. Furthermore, we hypothesized that the main effect would be qualified by an interaction between priming condition and goal status, such that those who had reported a goal to understand the reasons behind their friend's behavior and who were also primed with their

friend's name would generate the most situational attributions of all. We did not predict a main effect of goal group status, because having a goal to understand the behavior of one's friend does not imply having the same goal for strangers or nonfriends; without activation of this goal (through priming), it is thus unlikely this goal would become active during the experimental session.

Method

Participants—Forty-seven New York University undergraduate students (27 women and 20 men) participated for partial fulfillment of a course requirement. Five participants did not complete the evaluation tasks because of time constraints (3 from the control condition, and 2 from the friend-priming condition). The data from 3 participants were excluded: One reported (during postexperimental questioning) having seen the prime, and 2 control participants happened to have a significant other with the same name as the primed name. Thus, all analyses were performed on data from the remaining 44 participants.

Participants were divided into two groups on the basis of their responses to a free-response goal questionnaire. Participants who listed a goal to understand the causes of their best friend's behavior were considered to belong to the *goal* group, whereas those who did not list any such goal with their best friend were considered to belong to the *no-goal* group. Several variants of the goal phrase "to understand the causes of my friend's behavior" were accepted as equivalent for the purposes of this study. If the phrase mentioned understanding the friend's perspective, why the friend acts the way he or she does, or the reasons or causes for the friend's behavior, we included the participant in the goal group. Within our sample, 21 out of 47 participants listed this goal and were included in the goal group; 26 did not list the goal and were coded as members of the no-goal group.

Procedure

Overview: Two individuals participated in each experimental session and were seated in individual computer booths within a larger room. The experimenter explained that the study consisted of testing materials for use in research to be run in the autumn semester and that participation would consist of doing a mix of cognitive and social–psychological tasks.

Participants first completed a questionnaire asking them about their relationships with friends and family members. We embedded our goal measure within this larger questionnaire to reduce the salience of the goal-related items. The first page of the questionnaire was a briefer version of the free-response measure from the qualitative data collection; it included the classmate, best friend, and mother categories. The sole modification consisted of a space next to the category name for the first name of the relationship partner. Next, participants answered a series of questions about these relationships, such as ratings of their satisfaction. All of these questions were to be answered using a 7-point scale ranging from 1 (*not at all*) to 7 (*extremely*). On completion of this questionnaire, participants engaged in a 2-min filler task that required them to describe environmental settings, such as their path to school and their bedroom.

While they were engaged in this task, the experimenter looked at the first page of the questionnaire of one of the participants (randomly selected), which listed the name of the participant's best friend. The experimenter then entered this name into a computer program in two other computers in the lab room. Thus, in each session, both participants were primed with the same name, but for only one of these participants did this name represent his or her best friend.

Next, participants were asked to move to the other computer booths to do the next task (which was the subliminal priming manipulation). The experimenter informed them that this task would measure their ability to do two cognitive tasks simultaneously. Participants read further instructions on the computer screen (described below).

When participants finished the computer task, they began the attribution task. In this task, 10 sentences were presented 1 at a time. The sentences described behaviors (five positive and five negative) performed by the same individual (Sarah, who was described simply as a New York University student). For each sentence, participants were asked to name a likely cause for the behavior and then to answer a question about the cause they had named. They were asked whether the cause had mainly to do with Sarah herself (i.e., she caused the event) or whether other people or circumstances caused the event. These materials were modified and shortened versions of those used in previous attribution research by Prentice (1990) and Taylor and Koivumaki (1976). On completion of this task, participants evaluated Sarah on 12 items, such as how positively they felt about her, whether they thought they would like to be friends with her, how likable she is, and how friendly, rude, and intelligent she is.

Participants next completed an awareness check, which inquired about (a) their degree of motivation to understand the reasons for Sarah's behavior and (b) how understanding they felt they had been about the reasons behind Sarah's actions. These two items were answered on a scale from 1 (*not at all*) to 7 (*extremely*). Participants then completed a funneled debriefing questionnaire (see Bargh & Chartrand, 2000), which asked them (a) what they believed had been the purpose and hypothesis of the experiment, and (b) whether they thought any of the tasks were related and, if so, how they were related. When all participants had completed the debriefing questionnaire, the experimenter explained that a word had been presented during the computer task and asked participants to guess what word might have been presented. Participants were then told that the word had actually been a person's name and were asked to guess what name had been presented. Finally, the experimenter debriefed them fully and thanked them for their participation.

Subliminal priming procedure: Subliminal primes were presented during the computer task,[3] which was a modification of a standard parafoveal priming procedure (e.g., Bargh & Pietromonaco, 1982). The modification required participants to keep a running sum of numbers presented in the middle of the screen, to ensure the maintenance of focal attention at that point and thus minimize the chance of focal attention moving to peripheral locations where the primes were being presented (Bargh & Chartrand, 2000).

On each trial, an asterisk appeared in the center of the screen, followed by a number (random numbers between 1 and 13) that appeared in the center of the screen for a random interval of between 1,000 and 2,500 ms. During presentation of the number, the stimulus word and mask flashed at one of four corners of the screen, randomly determined each time. Each flash consisted of a prime stimulus presented for 60 ms, immediately followed (erased) by a letter-string mask (*XGFBZRMQWGBX*) for 60 ms (see Bargh, Bond, Lombardi, & Tota, 1986). The flashes were presented in the participant's parafoveal processing region (to minimize conscious awareness of the primes), 7.6 cm from the center fixation point, in one of the four quadrants of the screen, at angles of 45°, 135°, 225°, and 315° from the fixation point. The set up of the computer booths required participants to sit directly in front of the computer and approximately 1 m from the computer monitor. It was not possible for participants to move further back in the booth, but it was possible for them to move closer to

[3]The computers used were standard personal computers with Pentium processors and 15-in. (38.10-cm) monitors, running a Windows-based experimental software program, SuperLab Pro, Version 1.05. The *F* and *J* keys on the computer keyboard were labeled *left* and *right*, respectively.

the screen if they wished. Participants moving closer to the screen could only decrease the likelihood that they would consciously perceive the stimuli, as the stimuli would move further outward into the parafoveal processing region.

Participants were instructed to press the left or right key to indicate whether each flash occurred to the left or right of center, while continuing to add the presented numbers together and keeping track of the running total. At three points, participants were asked to write down the total they had reached so far and to begin counting again. To eliminate the possibility that any participant happened to be looking at one of the parafoveal locations during a prime presentation (thus making the presentation foveal and not parafoveal), we excluded from the analyses the attributional data from any participant who did not compute the correct totals on this task.

For the first part of the task, the subliminal stimulus consisted of a string of *X*s. This section of the task served as a filler, reducing any potential influence of the preceding relationships questionnaire on the later attribution task. This stimulus (the string of *X*s) was presented 32 times, at which point participants were prompted to write down their first total. From then on, the subliminal stimulus was the name of the friend or yoked participant's friend (immediately masked, as above). This experimental prime stimulus was presented a total of 64 times to each participant.

Results and Discussion

The predicted main effect of priming condition on attributions was significant, $F(1, 40) = 23.31$, $p < .001$ ($\eta_p^2 = .37$). People in the subliminal friend-priming condition made more situational attributions ($M = 4.30$) than did those in the control condition ($M = 3.46$). Also as predicted, this main effect was qualified by a significant two way interaction between goal and priming condition, $F(1, 40) = 4.15$, $p = .048$ ($\eta_p^2 = .10$). Gender did not produce a main effect ($F < 1.00$), nor did any interactions approach significance (ps > .15). A planned comparison of the friend-goal condition mean with the mean of the other three conditions combined was also significant ($p < .001$), indicating that those in the friend-goal group made attributions that were more situational than did all other participants. As can be seen in Figure 2, after being primed with their friend's name, participants who had the goal of understanding the reasons behind their friend's behavior were more motivated to consider and find situational causes for the target's behavior than were the other participants.

However, the priming manipulation significantly affected the externality of attributions given in both the goal and the no-goal conditions (ps < .02; see Figure 2). We had predicted that the interaction would completely qualify the main effect, in that participants who did not report the goal would not be influenced by the priming manipulation. The existence of the overall main effect here may be attributable to the less than perfect precision of our goal-condition grouping: Although participants who reported having the goal of understanding the reasons for a friend's behavior almost certainly belong in the goal group, there may well be participants in the no-goal group (i.e., who did not report the goal) who do actually possess this goal with their friend. This possible underreporting may have occurred because our free-response measure asked participants to list only two to four goals they possessed with their friend—this is likely not an exhaustive measure of participants' goals with each relationship partner.

Consistent with our goal-priming account of the findings, the greater tendency to make situational attributions in the friend-priming condition did not appear to be due to greater liking of the target person by friend-primed participants. First of all, analyses of the target evaluation measures we had included revealed no significant effects of priming conditions

on ratings of the target's qualities (all *F*s < 1.00) nor on ratings of how much they liked the target ($p > .10$). Second, we examined our attribution findings for evidence of any positivity bias by considering the effect of priming condition on attributions made about positive and negative behaviors separately. For both types of behaviors, those in the friend-priming condition made significantly more external attributions than did those in the control condition, $F(1, 40) = 7.92$, $p = .008$ ($\eta_p^2 = .17$; positive), and $F(1, 40) = 9.59$, $p = .004$ ($\eta_p^2 = .19$; negative). Consistent with our goal-priming account and counter to a positive-affect or favorability account, those in the friend-priming condition tried to understand both positive and negative behaviors by looking for situational causes.

Awareness Checks—Priming condition did not affect participants' self-reported ratings of how motivated they were to understand the reasons behind the target's behaviors, or how well they thought they understood the reasons for her behavior, or how interested they were in reading about her and thinking about reasons for her behavior (all *F*s < 1.00). Nor did these self-reported measures of motivation to understand the target correlate with the externality of attributions made (all *r*s < .15, *ns*). These findings further demonstrate the nonconscious nature of the goal operation in this study (see Bargh et al., 2001, Experiment 2, for a similar finding).

Finally, no participant reported any suspicion about the nature of the experiment or the relation between the tasks. Participants generally believed the tasks to be unrelated and were unable to guess what word or name had been subliminally presented. Those who suggested that the tasks were related typically hypothesized that we were testing memory or attention. One participant guessed that the name presented was her best friend's name; thus, her data were consequently excluded from analyses.

Summary—In this study, the subliminal presentation of a best friend's name significantly affected people's tendency to find situational causes for behavior. Not satisfied with making less-effortful dispositional inferences (e.g., Gilbert, 1989), these participants engaged in the mental effort to find external causes of behaviors, indicating a greater degree of motivation to understand the reasons for a target's behavior. Indeed, friend-primed participants who had reported a goal to understand the causes of a friend's behavior gave attributions that were more situational than those of all other participants. It is important that the primes did not influence participants' global positivity of affect toward the target. These findings support the hypothesis that the psychological presence of relationship partners can instigate goal-directed behavior.

Study 4a: Individual Differences in Nonconscious Relationship-Goal Effects

Study 4a is a conceptual replication of Study 3, but with several important changes. First, we examined a different type of relationship (child–mother) and a different interpersonal goal (to make one's mother proud). Second, we assessed the effects of nonconscious goal activation on a true behavioral measure, one that closely corresponds to the goal of interest. Third, we included a direct mood measure to determine whether mood is implicated in the relationship-goal pursuit effects. Last, the goal-assessment questionnaire was completed in pretesting, several months prior to the experimental sessions, rather than during the session itself.

On the basis of the premeasure of participants' idiosyncratic goals with their mother, we classified participants into two groups according to whether they had previously reported the goal to make their mother proud. In addition, participants were randomly assigned to either the relationship priming condition, in which they completed a short task designed to activate

the representation of their mother, or the control condition, in which they completed a similar but interpersonally neutral task. Participants then completed the dependent measure —a verbal skills task in which they were asked to generate as many words as possible from a string of letters.

On the basis of the results of Studies 1, 2, and 3, we predicted a main effect of priming condition, such that those in the mother-priming condition would perform better on the verbal task than would other participants. However, we further hypothesized that this main effect would be qualified by an interaction between priming condition and idiosyncratic goal status. Only those participants who had earlier reported possessing a goal to make their mother proud should have their performance on the verbal task affected by the priming of the mother representation; the performance of those participants who had not reported having this goal with their mother should not be influenced by the priming manipulation. In other words, like Study 3, this experiment tests the assumption that the normative, main effects of relationship priming obtained in previous studies were driven by the subset of participants within the relationship-primed condition who possessed the interpersonal goal under study.

Method

Participants—Sixty-seven New York University undergraduates participated in this study for partial fulfillment of course requirements (44 women and 23 men).

Participants were divided into two groups on the basis of their responses to the free-response goal questionnaire administered in a mass-testing session several months earlier (see Qualitative Data section for details). Participants who had listed a goal to make their mother proud were considered to belong to the goal group, whereas those who did not list any such goal with their mother were considered to belong to the no-goal group. Within our sample, 34 out of 67 participants had listed this goal and were included in the goal group; 33 had not listed the goal and were coded as members of the no-goal group.

Materials and Procedure—Participants in groups ranging in size from 3 to 8 met the experimenter in a designated waiting room and then adjourned to a large lab room, where each was seated at an individual desk. The experimenter explained that she was interested in both memory and verbal skills and that she was testing materials to be used in a later experiment. The first task was described as a test of either *event memory* or *person memory*. Participants understood that some people in the group would complete the person memory task and others would complete the event memory task. Event memory was explained as one's ability to remember specific episodes from one's past, whereas person memory was described as one's ability to remember specific information about another person.

In actuality, the person memory task served as a supraliminal priming task, as in Studies 1 and 2, designed to activate the mental representation of participants' mothers. The first question asked participants to visualize and describe their mother's appearance as fully as possible; the last question asked participants to imagine their mother on an average Saturday and describe her activities. Other questions asked about the participants' mother's political preferences, hobbies, musical preferences, age when married, date of birth, and vacations taken.

The event memory (control) task asked similar types of questions, but pertaining to neutral, noninterpersonal events. The visualization tasks asked for descriptions of the participants' bedroom and of the path they commonly walk to school; the other questions asked about the first musical CD they purchased, vacations taken, concerts frequented, the name of the street on which they were born, and their astrological sign. Participants were randomly assigned to

be in either the mother-priming condition (in which they received the person memory test) or the control condition (in which they received the event memory test).

After all participants completed the memory tasks, the experimenter explained that the next task was a verbal skills test that would require them to generate words from a set of seven letters. Participants were told they had 5 min to generate as many unique words as they could, and it was emphasized that success on this task involved generating as many words as possible; scoring was to be tabulated solely from the total number of words, not from the complexity of the words. After 5 min, the experimenter asked participants to stop working on the test.

Participants then completed a short questionnaire about the verbal test, which consisted of four questions to be answered using 7-point scales. The first question was a one-item mood measure, which read, "Please rate your general mood right now on the following scale from 1 (*negative*) to 7 (*positive*)." Two questions asked participants to rate how motivated they were to work hard on the task and how much they cared about doing well on the task (from 1 = *not at all* to 7 = *very much*). A third question asked participants how well they thought they had done on the task, from 1 (*poorly*) to 7 (*excellently*), and the fourth question asked participants to give a percentile score of how well they thought they had performed compared with other New York University students.

After completion of this questionnaire, participants completed the funneled debriefing questionnaire, as in Study 3. When all participants had completed the debriefing questionnaire, the purpose and nature of the experiment was explained fully. Students were then given written debriefing forms and thanked for their participation.

Results and Discussion

To calculate a performance score for each participant, we totaled the number of words generated during the verbal task. We subtracted any repeated words or nonwords from this total, which left each participant with one number that represented his or her performance. There was a normal distribution of words, ranging from 9 to 58, with a mean of 27.44 and a standard deviation of 9.31.

As predicted, a main effect of priming condition was obtained: Participants in the mother-priming condition outperformed those in the control condition, $F(1, 59) = 13.49$, $p = .001$ ($\eta_p^2 = .19$). This effect was qualified by the predicted Goal Group (goal, no goal) × Priming Condition (mother, control) interaction, $F(1, 59) = 6.64$, $p = .01$ ($\eta_p^2 = .10$). As can be seen in Figure 3, participants who possessed a goal to make their mother proud and whose mother representation had been primed outperformed all other participants in the experiment. A planned comparison of the mother-goal group mean with the mean of the other three conditions combined was also significant ($p < .025$). As predicted, for participants who reported possessing the goal, the mother-priming task significantly affected their performance, $F(1, 30) = 20.39$, $p < .001$ ($\eta_p^2 = .41$). It is important to note that, for participants who had not previously reported the goal, the priming task did not affect performance ($F < 1.00$, $\eta_p^2 = .02$).

A marginally significant three-way interaction, $F(1, 59) = 3.67$, $p = .06$ ($\eta_p^2 = .06$), indicated that gender had influenced the Priming Condition × Goal interaction. Both genders showed the predicted pattern of results, but male participants in the goal group were more influenced by the priming manipulation, performing better than female participants in the goal group after the mother prime and worse in the control condition (mean scores were 39.0 and 19.0

for men and 32.0 and 24.6 for women in the mother-prime and control conditions, respectively).

These results provide further support for the hypothesis that nonconsciously activated goals associated with one's relationship partners affect social perception and behavior. Participants whose mental representations of their mother were activated worked harder on a verbal task. We suggest that differential goal accessibility underlies this main effect of priming condition. In support of that hypothesis, the priming manipulation (activating the mother representation) significantly affected the task performance of only those participants who had earlier reported possessing the goal to make their mother proud.

Mood and Goal Awareness Checks—There were no effects of priming condition or goal, nor any interaction effects, on participants' reported mood after finishing the verbal test (all Fs < 1.20). A small positive correlation between mood and performance was obtained (r = .21, p = .09).

To ascertain participants' level of awareness about the goal-directed nature of their performance, we conducted an ANOVA on reported motivation and caring about the test. Neither priming condition nor goal-group status affected reported motivation to work hard on the verbal test (Fs < 1.00) or participants' reported caring about their successful performance (Fs < 1.00). No interaction between priming condition and goal-group status on these variables approached significance. These self-report measures did not correlate with actual task performance (all rs < .15, *ns*). These findings replicate those of Study 3 and further support our hypothesis that participants were not aware of the activation or operation of the relationship-embedded goal. In their responses to the funneled debriefing questionnaire, no participant reported any suspicion of the interrelation of the two tasks or reported feeling that the first task had influenced their performance on the second task in any way.

Summary—These findings replicate those of Study 3 within the context of a different relationship, a different interpersonal goal, and a behavioral—rather than a social–perceptual—measure of goal pursuit. Most important, in Study 4a, only those participants who reported the goal to make their mother proud were significantly affected by the mother primes. Thus, these data are further support for our hypothesis that activating relationship partner representations also activates interpersonal goals, which then influence people outside of their awareness.

Study 4b: The Relation Between Primed Self- and Partner Goals

Because of the interdependent nature of relationships, a partner's traits, beliefs, and goals are likely also activated when a relationship representation is activated. An interesting alternative explanation of Study 4a is that the mothers of goal-group participants have harsher or more judgmental standards for success, care more about the participant's academic success, or are simply more competitive or achievement-oriented people themselves. When participants are primed with representations of their high-standards mother, then, they should be more motivated to succeed on the task to meet her expectations (e.g., Baldwin & Holmes, 1987; Moretti & Higgins, 1999; Shah et al., in press). To examine the possibility that the findings of Study 4a may indicate the priming of partner goals or standards rather than participants' own goals, we ran a follow-up study looking at the relation between possessing a goal to make one's mother proud and perceived qualities of the mother and relationship. If activated partner goals or standards account for the interaction between goal status (having vs. not having the goal to make mother proud) and

priming condition, then participants in the two goal groups should differ in their reports of the standards or goals of their mother with respect to their own achievement.

Method

Eighty-two New York University undergraduates participated in this study for partial fulfillment of course requirements (52 women and 30 men).

As part of a mass-testing session, participants completed a short questionnaire. First, they wrote down the goals they pursued with their mother (a shortened version of the free-response measure from the qualitative data collection). Then they were asked to rate the degree to which their mother possessed certain qualities, on a 9-point scale from 1 (*not at all*) to 9 (*extremely*). The items of interest were "competitive," "achievement-oriented," "judgmental," and "intellectual"; filler items were "caring," "kind," and "warm." On the same 9-point scale, participants then rated how important it is to their mother that they succeed at academic tasks such as exams.

Results and Discussion

Participants who listed a goal to make their mother proud (n = 33) were considered to belong to the goal group, whereas those who did not list any such goal with their mother (n = 49) were considered to belong to the no-goal group.

Contrary to a primed partner standards explanation of Study 4a, the two groups did not differ on ratings of how intellectual, achievement oriented, or competitive their mother was (Fs < 1.00), nor on how judgmental their mother was, $F(1, 80) = 2.94$, $p = .09$ ($\eta_p^2 = .04$). In fact, the means for "judgmental" are opposite to the direction that a standards perspective would predict, with participants in the goal group rating their mother as less judgmental (M = 6.05) than those in the no-goal group (M = 6.83). Also, groups did not differ on how important their mother felt it was for them to succeed academically (F < 1.00). It is interesting (and quite in contrast to the prediction offered by a partner-standards perspective) that groups did differ on ratings of their mother's caring, F = (1, 180) = 4.28, p =.04 ($\eta_p^2 = .05$), and kindness, $F(1, 180) = 5.35$, p =.02 ($\eta_p^2 = .06$), suggesting that participants who wanted to make their mother proud perceived their mother more positively than did those who did not spontaneously report that goal. Gender did not produce a main effect nor interact with goal-group status (Fs < 1.00).

These data suggest that the findings of Study 4a cannot be explained in any compelling way by the priming of partners' standards rather than participants' goals. Of course, much research has shown the influential nature of primed partner standards (Baldwin & Holmes, 1987; Higgins, Roney, Crowe, & Hymes, 1994; Moretti & Higgins, 1999, Shah et al., in press), and we do not wish to argue that the priming of a relational representation activates one and not the other type of relational construct. Rather, it is likely that the activation of a mother representation did indeed activate the mother's goals and standards and that these may have influenced participants in ways unmeasured in the current study—however, because there was no systematic relationship between the goal to make one's mother proud and these evaluative standards, the activation of these constructs cannot account for Study 4a's interaction between priming condition and reported goals. These data support our proposal that the mechanism underlying the interaction is the activation of participants' own interpersonal goals to make their mother proud. Furthermore, these data point to the complexity of the interrelation between interpersonal motivations and characteristics of relationship partners, and of the structure of relational representations.

General Discussion

Because many of one's most important and consequential goals are pursued within relationships, as Berscheid (1994) argued, it is critical to understand goal pursuit within an interpersonal context. The present studies investigate how interpersonal goals can become activated by just the psychological presence of relationship partners and then guide perception and behavior in a nonconscious manner. These data reinforce the notion that relationship partners are among the most important and fundamental aspects of a person's life, having the power to strongly influence thoughts, feelings, and motivations, even when they are not physically present.

Through a variety of priming manipulations, activated relational schemas in the present experiments affected participants' willingness to help an experimenter, the effort they put into understanding the reasons behind a target person's behavior, how they perceived and interpreted the motives of a target person they read about, and how hard they worked on a verbal task. Some of these dependent measures are clearly interpersonal, such as willingness to help a stranger, interpretations of another person's motives, and attributions about another person's behavior. Although others may appear, at first glance, to be minimally interpersonal (e.g., achievement measures), we believe that all of the studies fundamentally measure the accessibility of interpersonal goals. For example, in Study 4a, the goal participants reported associating with their mothers was not "to achieve at school"; rather, school achievement was merely a means to satisfying an interpersonal goal to make their mother proud. In this way, a simple achievement task measures an interpersonal motive: Just as goals to maintain physical attractiveness to please a partner are fundamentally interpersonally motivated, so are goals to succeed, if those goals serve a higher goal of impressing a relationship partner.

Implications for Relational Representations

These findings extend previous empirical work on relational schemas (e.g., Baldwin et al., 1990) by demonstrating motivational effects of activated relational representations. Theorists have suggested that such representations include motivational components (Baldwin, 1992; Chen & Andersen, 1999; Miller & Read, 1991; Park, 1986; Trzebinski, 1989). In support of this hypothesis, these data illustrate that the activation of a relationship representation can produce unaware and unintended goal effects on perception and behavior. In our view, this is compelling evidence that interpersonal goals do exist as component features of relationship representations.

The present results also support and extend research on cognitive transference phenomena (see Andersen & Chen, in press, for a review). First of all, the present motivational effects did not depend on the physical presence of the relationship partner or a stimulus person who resembles that partner. Second, the present studies demonstrate a variety of specific interpersonal goal pursuits and so go beyond the global approach motivations caused by greater liking for the target person brought about by significant-other priming (Andersen et al., 1996).

It is important to note that these findings also support and extend previous theories about how relationship partners are cognitively represented as well as research showing the effects of interpersonal knowledge structures on social perception and behavior (e.g., Baldwin et al., 1990; Higgins et al., 1994; Shah et al., in press). Previous theorists have suggested that relationship partners watch us from the back of our mind, so that we feel that they are observing our behavior even when physically absent. According to these theories, by functioning as a private audience, partners can evoke evaluative standards that people feel compelled to meet; people are then more likely to behave in ways that will satisfy the

wishes, goals, and standards of the private audience members (Baldwin & Holmes, 1987; Higgins et al., 1994; Moretti & Higgins, 1999; Shah et al., in press).

In a complementary fashion, the current research proposes that perception and behavior can be automatically influenced by people's own interpersonal goals—which may or may not be linked to a partner's standards or wishes. Although interpersonal goals are undoubtedly related to perceptions of relationship partners' standards and goals, these are clearly distinct mental constructs and processes. The current findings provide demonstrations of goal accessibility effects that do not appear to rely on activated evaluative standards. In particular, these studies show that interpersonal goals are pursued in situations that are not applicable to a particular relationship context. For example, participants in Study 3 were found to be more understanding of the causes of a stranger's behavior after friend primes. Although friends watching from inside one's head may have standards about what kinds of attributions they would prefer to be drawn about their own behavior, they are unlikely to have such standards about attributions for a complete stranger. Last, evidence from Study 4b suggests that interpersonal goals are not associated in a simple way to perceived partner evaluative standards, wishes, or goals: Participants who reported wanting to make their mother proud did not perceive their mother to have higher or harsher evaluative standards.

Implications for Automatic Goal Pursuit

In addition to contributing to our understanding of how relationship partners are mentally represented, these findings extend previous research on the auto-motive model of nonconscious goal pursuit (e.g., Bargh & Gollwitzer, 1994; Bargh et al., 2001) by showing that relationship partners can also serve as sources of nonconscious goal activation, in the same way as can other environmental stimuli (e.g., particular types of situations). Previous research has demonstrated that nonconscious goals can become activated by the presentation of semantic associates of the goal (e.g., *strive* or *succeed* for an achievement goal; Bargh et al., 2001; Chartrand & Bargh, 1996) and also by environmental features that are associated with pursuit of the goal (Bargh, Raymond, Pryor, & Strack, 1995; Chen, Lee-Chai, & Bargh, 2001). The present research significantly increases the generality of the nonconscious goal activation phenomenon in daily life, as thinking about their relationship partners is something people do quite often.

The nonconsciousness of these effects is demonstrated chiefly by our repeated finding that activation of the representation of the significant other produced behavior in the direction and service of goals presumed a priori to be part of that representation, without the participant's conscious choice or awareness of the operation of this goal (as consistently shown in the results of the extensive debriefings). However, two aspects of the designs of the present studies involved more active, conscious processing. First, the idiographic measure of relationship goals was self-report, so, at least for the particular goals we studied here, people are aware of pursuing these goals when with those significant others and can report on them fairly accurately. As we have noted elsewhere, there may well be other relationship goals people pursue that are less accessible to awareness (see McClelland, Koestner, & Weinberger, 1989) and that also may be nonconsciously activated and put into operation when relationship representations are activated. However, although a person can report having these goals when asked, the present studies demonstrate that people are not aware of how those goals can drive behavior in the absence of the relationship partner, merely because they recently thought about the partner (or were subtly primed by the name of that partner).

That some of the studies did ask participants to actively think about the relationship partner as the goal-priming manipulation is the second, more conscious aspect of the experimental designs, but we consider this a strength of the designs that adds ecological validity to the

present findings. Certainly, the fact that similar findings are obtained when more passive, even subliminal, priming manipulations are used shows that active thought about the partner is not a necessary condition for the obtained effects. And even the more conscious priming manipulations did not focus participants' attention on the goals they pursue with the partner; they merely asked participants to describe the partner's appearance or typical day. In real life, by far the most usual occasion for these nonconscious relationship goal effects to occur is when the individual thinks about the relationship partner in some way (or looks at a picture of him or her), and the present studies show that the effects do hold under such conditions.

Nonconscious Interpersonal Goal Pursuit in Natural Social Contexts

To further apply the findings of the current studies to everyday interpersonal interactions, it would be fruitful to also gain an understanding of how multiple goals—both conscious and non-conscious—conflict and compete to influence behavior. In a natural social setting, multiple goals likely become simultaneously activated by environmental cues as well as by (both physically and psychologically present) relationship partners. For example, if a college student's goal to make his mother proud by succeeding academically was unobtrusively activated when the student received a letter from her in the mail just as he was about to head out for a night of frivolity with his fraternity buddies, it is unlikely that he would be compelled to turn back and head to the library instead. His other important and currently active interpersonal goals (to appear like a cool guy, to have a good time) would likely conflict with the expression of this additional interpersonal goal (to make his mother proud) in this particular social situation. As Higgins (1996) has argued in the context of construct accessibility influences on social perception, the applicability of the activated construct—a goal, in present terms—to the current circumstances plays an important role in determining which of the available relevant constructs will win out to determine an individual's response. Thus, the present nonconscious relationship-goal effects are more likely to occur in interpersonal contexts in which there is no more applicable, strongly activated alternative goal being pursued.

Of course, the most natural and likely context in which a relationship goal will become active is within the relationship itself—that is, when the relationship partner is physically present. Although the present experiments do not examine nonconscious goal operation in natural relationship settings (i.e., in interactions with the partner), we believe that the underlying cognitive process—the activation of the representation of an ongoing relationship partner and the associated interpersonal goals—would be the same. More than that, the actual presence of the partner in the environment would be the strongest prime possible of the relationship representation, and so, if anything, the effects should be even stronger within actual interactions than in the present experimental tests.

That being said, we believe that additional research is needed on the content of relationship goals to fully understand what types of goals people actually pursue in their various relationships. On our self-report goal measure, participants overwhelmingly reported positive relationship goals—altruistic, loving, and supportive goals. In all likelihood, however (unfortunately for their relationship partners), our participants also possess less positive interpersonal goals (e.g., possessive, manipulative, or selfish goals) in addition to those they reported. Participants may have avoided reporting these negative goals out of social desirability concerns, or perhaps something about the way our questionnaire was worded caused them to focus on the positive. Perhaps less explicit measures of the content of relationships goals could be developed that would provide a more accurate, less rosy picture of the interpersonal goals actually being pursued within relationships. Similarly, there may well be important relationship goals that people possess but that are not available

to self-report (see McClelland, et al., 1989, for review). It is possible that some of the underreported negative interpersonal goals belong to this category of nonconscious goals.

Finally, we have thus far considered nonconscious relationship goals from just one side of the relationship. But, clearly, the present findings apply equally to both parties within a given relationship. If, as the present findings suggest, these goals are often pursued in a nonconscious manner, it may be the case that negative relationship behaviors stem not so much from the existence of negative interpersonal goals per se but rather from a conflict between the (positive) goals of the two relationship partners (Peterson, 1989; Thibaut & Kelley, 1959; Wilensky, 1983). For example, both the goal to be independent and the goal to be intimate are positive; however, if one partner possesses an independence goal and the other possesses an intimacy goal, conflict and negative interactions are likely to ensue. Thus, the interplay within a given relationship of the two partners' potentially incongruent nonconscious goals is likely another important direction for relationship-goal research.

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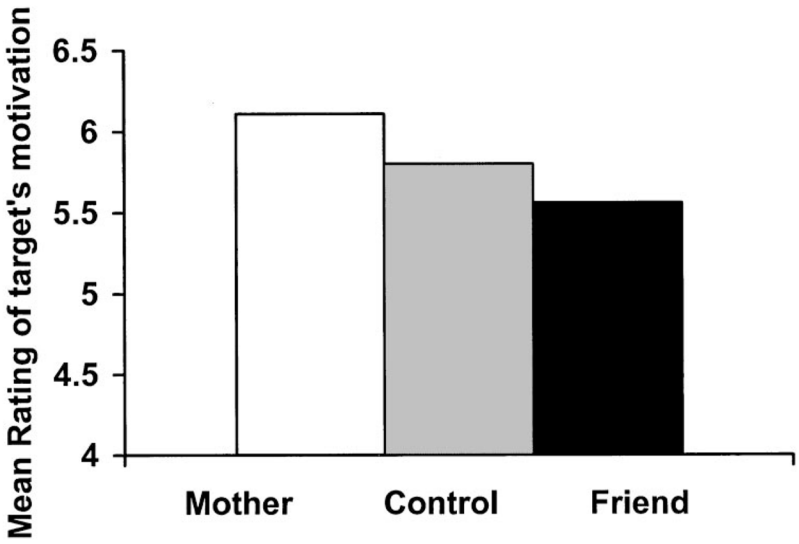

Figure 1.
Mean ratings in Study 2a of target's motivation to succeed, by priming condition.

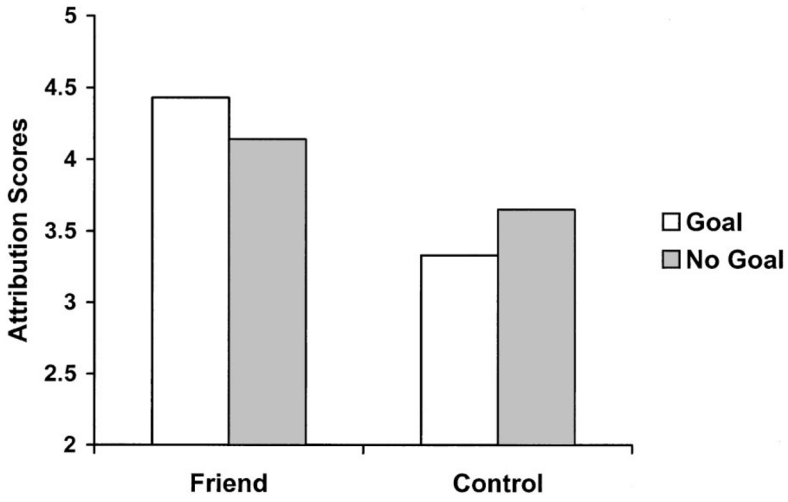

Figure 2.
Mean attribution scores in Study 3 (higher scores indicate more situational attributions), by experimental condition (friend prime or control) and goal status (possessing or not possessing the goal).

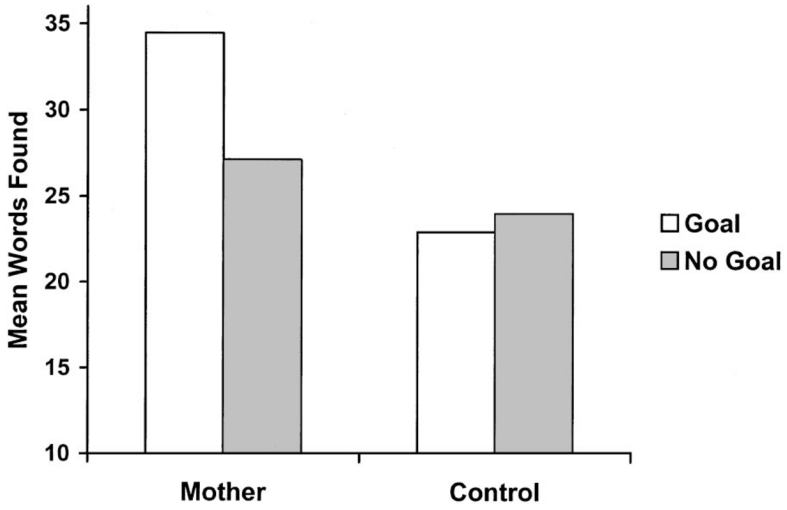

Figure 3.
Mean number of words found in anagram task in Study 4a, by experimental condition (mother prime or control) and goal status (possessing or not possessing the goal).

Table 1

Percentage of Participants Who Reported Interpersonal Goals With Various Significant Others (Qualitative Data)

Significant other	Success	Self-present	Caring	Show care	Help	Get along	Duties	Communicate	Have fun	Ideal self	Maintain relation	Self-benefit	Establish relation	Other	*n*
Friend	1.1	5.9	26.1	19.0	24.7	0.0	22.4	24.9	12.1	17.3	21.8	5.0	1.4	7.4	353
Mother	40.7	10.8	25.1	24.5	11.7	5.7	9.7	10.8	1.7	20.5	9.4	7.1	0.0	10.3	351
Romantic partner	0.5	6.0	31.1	28.1	14.4	1.8	7.8	28.1	7.8	31.3	26.4	15.0	0.0	20.9	167
Classmate	4.9	28.2	3.1	3.4	21.8	5.5	1.8	11.0	2.1	17.5	4.9	22.7	25.5	12.0	326
Roommate	0.0	3.2	7.4	8.8	4.2	41.5	5.5	16.1	8.3	37.8	14.3	8.8	7.8	19.4	217

Note. relation = relationship.

Table 2

Frequency of Participants Willing to Do an Immediate Second Task, by Priming Condition (Study 1)

Willingness	Friend prime	Coworker prime	Total
Yes	9	3	12
No	8	13	21
Total	17	16	33

Appendix

Descriptions of Goal Categories Used in Coding Free-Response Data (Qualitative Data)

Goal category	Example
Success in life	To show her I can succeed
	To make her proud of me by succeeding
Self-presentational concerns	To show her I am: funny/cool/smart/independent/easygoing
Care for partner	To be there for him
	To make sure she is happy/healthy
	To nurture/care/love her
Show care for partner	To show her I love her/care for her/will be there for her
Help and support	To help him/support her
Get along	To get along/coexist
	To cooperate
Duties of relationship maintenance	To talk to her more/spend more time with her
Understanding/communication	To understand why she acts that way/to understand his perspective
	To become closer/to know everything about each other
Have fun	To have a good time/to enjoy his company
Ideal self as relationship partner	To be nice/good/honest/considerate
	To be a good daughter/friend/roommate
Relationship maintenance and improvement	To continue to be good friends/to be better friends
Establish relationship	To become friends
Self-benefit	Make him pay for me more
	Get her help with studying