The Impact of Past Relationships on Interpersonal Behavior: Behavioral Confirmation in the Social–Cognitive Process of Transference

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This study extended research on transference in social perception (e.g., S. M. Andersen, I. Reznik, & L. M. Manzella, 1996) into the realm of social behavior by examining behavioral confirmation (e.g., M. Snyder, 1992) in transference. Each perceiver participated in a brief conversation with a naive target participant, who either did or did not appear to resemble the perceiver’s own positively or negatively regarded significant other. Trained judges rated positive affect expressed in targets’ behavior. As predicted, targets expressed more positive affect in their behavior when they allegedly resembled the perceiver’s own positively versus negatively toned significant other, an effect not found in the control condition. This evidence demonstrates behavioral confirmation in transference, suggesting a means by which present relationships may resemble past ones.

Casual observation suggests that interactions in a new relationship may bear a strong resemblance to interactions in a past relationship. This notion provides the basis for the clinical concept of transference (Freud, 1912/1958; or parataxic distortion, Sullivan, 1953). Recent research has provided support for a social-cognitive model of transference in everyday social perception by showing that mental representations of significant others, stored in memory, are activated and used in new social encounters on the basis of a new person’s resemblance to a given significant other.

In particular, when a new person resembles a significant other, people interpret the new person in terms of the significant other by making related inferences about him or her accordingly (Andersen & Baum, 1994; Andersen & Cole, 1990; Andersen, Glassman, Chen, & Cole, 1995, Andersen, Reznik, & Manzella, 1996; S. Chen, Andersen, & Hinkley, 1999). This effect has been shown to be more pronounced for significant-other representations than for generic social categories (such as the participant’s conceptualization of a “nerd”) or for nonsignificant others (see Andersen et al., 1995; S. Chen et al., 1999), and thus the effect is not driven simply by global implicit theories. That is, the stimuli in both the significant-other condition, which triggers transference, and the stimuli in the control conditions in these studies were self-generated by the participant. Hence, if the effect were accounted for simply by global theories about how self-generated features go together, our predicted effect should have washed out. Instead, it was more pronounced in the significant-other condition.

Moreover, this significant-other–derived inference effect occurs when the significant-other representation is activated outside of the perceiver’s conscious awareness, using a subliminal activation procedure. This demonstrates that transference can be triggered nonconsciously, as assumed in psychodynamic theory, and now demonstrated in social-cognitive terms. This evidence also shows that strategic effort by perceivers to think of who a new person might remind them of is not necessary for the effect to occur (Glassman & Andersen, 1999a). This effect involving significant-other–based inferences constitutes a basic index of the activation and use of significant-other representations, which we have argued are the fundamental processes underlying transference in everyday social relations (Andersen & Berk, 1998a, 1998b; Andersen & Glassman, 1996; S. Chen & Andersen, 1999). Hence, transference appears to occur according to basic principles of social cognition and social construct theory (e.g., Higgins, 1996; Higgins & King, 1981; Kelly, 1955).

It has also been shown that significant-other resemblance in a new person leads perceivers to evaluate him or her in accordance with the overall positive or negative affect associated with the significant-other representation (Andersen et al., 1996; Andersen & Baum, 1994; Baum & Andersen, 1999). This evaluation effect provides another central index of the activation and use of a significant-other representation. These data demonstrate schema-triggered affect in transference, showing that it occurs not only for the generic categories or stereotypes that have primarily been studied (Fiske & Pavelchak, 1986; Pavelchak, 1989) but also for individual-person exemplars (see Smith & Zarate, 1992) designating significant others. Because the theory of schema-triggered affect focuses on evaluation, it is silent on the actual affect or emotion that might emerge in transference. We have argued that the emotional and motivational importance of significant-other representations makes them especially emotionally laden, such that affect in transference should emerge in accordance with the evaluation associated with the significant other (Andersen et al., 1997; Andersen, Glassman, & Gold, 1998). In support of this, self-
reports of transient mood states (Andersen & Baum, 1994; Baum & Andersen, 1999), as well as immediate facial expressions of affect while learning about a new person, occur in transference, as derived from the overall evaluative tone of the representation (Andersen et al., 1996). We acknowledge that significant-other representations are likely to be associated with more complex feelings and emotions than this positive–negative distinction captures and also that they may vary in internal coherence and differentiation (e.g., Main, 1996; see also Blatt, Wiseman, Prince-Gibson, & Gatt, 1991; Segal, Westen, Lohr, & Silk, 1993). However, the overall tone of significant-other representations provides a useful barometer for examining affect in transference because of the clear predictions that can be made, and was thus used in the present research for this reason.

Related work has also shown that significant-other resemblance in a new person leads the motivation to be emotionally close versus distant to be applied to him or her, along with expectations for acceptance versus rejection by him or her on the basis of whether the significant other is evaluated positively or negatively (Andersen et al., 1996). Hence, motivation and expectancies, as well as evaluation and affect, are triggered in transference in accordance with the overall tone of the representation. In summary, significant-other representations and transference are affect-laden. Thus, affect-laden interpersonal behavior—as measured in a real encounter between two individuals—should occur in transference, and this was the focus of this research.

Our aim in this work was to determine whether the century-old concept of transference could be traced in actual, measurable behavior in a dyadic encounter between strangers. This question has yet to be examined empirically in 100 years of theory on transference that refers to such dynamic processes.

Interpersonal Behavior in Transference

If transference has an impact on social relations, it should emerge in interpersonal behavior between two people. A premise of our social–cognitive model, and an assumption at the heart of the transference concept, is that it influences interpersonal relations (Andersen & Berenson, in press; S. Chen & Andersen, 1999).

Research has shown that the relational linkages between the self and the significant other in memory are activated in transference along with the significant-other representation (Andersen et al., 1996; Hinkley & Andersen, 1996). This suggests that the relationship with the significant other should be evoked in transference, which should have implications for interpersonal behavior. Our conception of self—other relational knowledge as it is stored in memory largely parallels assumptions made by relational schema models (Baldwin, 1992; Bugental, 1992; see also Baldwin, Carrell, & Lopez, 1990; Bugental, Lyon, Krantz, & Cortez, 1997; Sullivan, 1953), although we focus on idiosyncratic (Allport, 1937; Kelly, 1955) rather than on nomothetic significant other, self, and relational knowledge. However, the process of transference is general and nomothetic, and it has been shown that normative role definitions and other generic knowledge is triggered when idiosyncratic significant-other representations are triggered (see Baum & Andersen, 1999; Reznik & Andersen, 1998). Because transference is affect-laden, more positive affect should be expressed in interpersonal behavior in a one-on-one interaction when the transference involves a significant other who is regarded positively rather than negatively. That is, just as the affect associated with the significant-other representation emerges in the perceiver’s evaluation, facial affect, interpersonal motivation, and expectancies toward the new person in transference (Andersen & Baum, 1994; Andersen et al., 1996), it should also emerge in interpersonal behavior in the context of transference.

Going a step further, the affect that occurs in the behavior of a perceiver when a significant-other representation is activated should ultimately emerge in the behavior of the new person with whom the transference is experienced. Extending beyond the perceiver’s own behavior in the interaction, the behavior of the new person—the target of the transference—should come to reflect the affect associated with the significant-other representation. It is by now well-documented that under the appropriate circumstances, a target person may come to behave in ways that are consistent with a perceiver’s prior beliefs about him or her, such that behavioral confirmation (Snyder, 1992; Snyder, Tanke, and Berscheid, 1977), the self-fulfilling prophecy (Jussim, 1986; Merton, 1948; Rosenthal & Jacobson, 1968), or expectancy confirmation (Darley & Fazio, 1980; Miller & Turnbull, 1986) occurs. In the present research, we predicted that behavioral confirmation would occur in transference, in accordance with the positive or negative affect associated with the perceiver’s activated significant-other representation.

In support of this prediction, motivations and expectancies have long been thought to be central in predicting behavior and in the behavioral confirmation process (Bargh, 1990, 1997; Bargh & Gollwitzer, 1994; Cantor & Kihlstrom, 1987; Darley & Fazio, 1980; Hamilton, Sherman, & Ruvolo, 1990; Jussim, 1986; Miller & Turnbull, 1986; Olson, Roese, & Zanna, 1996; Snyder, 1992; Snyder & Stukas, 1998) and have been shown to be triggered in transference (Andersen et al., 1996). In the present research, we examined the proposition that behavioral confirmation would occur in the target’s conversational behavior during a brief getting-acquainted conversation when perceivers experienced transference toward them. In this manner, current encounters should take on qualities of prior relationships.

Social Cognition and Transference

In our social–cognitive model, we assume that transference occurs—both in clinical settings and in daily life—as a basic process operating according to social–cognitive rules (Andersen & Berk, 1998a; Andersen & Glassman, 1996; S. Chen & Andersen, 1999; for related models, see also Horney, 1939; J. A. Singer & Singer, 1994; J. L. Singer, 1988; Sullivan, 1953; Wachtel, 1981; Westen, 1988). In the model, the activation and use of a significant-other representation to interpret a new person is assumed to be fundamental to transference, and this process is conceptualized in accordance with principles of social construct theory (Bruner, 1957; Higgins, 1989, 1990, 1996; Higgins & King, 1981; Kelly, 1955; Sedikides & Skowronski, 1991). It is also grounded in exemplar theory, which proposes that individual-person exemplars shape social perception (Smith & Zarate, 1992; 1

1 We do not subscribe to the elaborate psychosexual, drive-structure assumptions made by Freud (1912/1958) and their implications for transference, nor do we subscribe to the notion that transference is pathological or neurotic. We do, however, endorse the simple premise that aspects of past relationships may be replayed in present ones. We assume, as Sullivan
patterns play out in behavior in transference. (p. 160). In our work, we make no assumptions either about repression or transference. Freud's (1914/1963) concept of "repetition compulsion" also makes behavior primary in transference, in that "we may say that here the behavioral confirmation (Snyder, 1992; Snyder et al., 1977) refers to specific, measurable changes in the behavior of the target reflecting the beliefs of the perceiver. Changes in the behavior of a target person constitute the essence of the self-fulfilling prophecy (e.g., Darley & Fazio, 1980; Hamilton et al., 1990; Merton, 1948; Rosenthal & Jacobson, 1968; Snyder, 1992; Word, Zanna, & Cooper, 1974; Zanna & Pack, 1975). Actual behaviors in the target confirming the perceiver's initial beliefs go beyond perceptual confirmation, in which the perceiver may believe that the target's behavior confirmed his or her initial beliefs when it objectively did not (for more on perceptual confirmation, see Darley & Fazio, 1980; Hamilton et al., 1990; Harris & Perkins, 1995; Jussim, 1991; Miller & Turnbull, 1986; Snyder, 1992).

Behavioral confirmation and self-fulfilling prophecy effects have been demonstrated across a wide variety of laboratory and naturalistic settings and for numerous beliefs and expectations (for reviews, see Hamilton et al., 1990; Jussim, 1991; Miller & Turnbull, 1986; Olson et al., 1996; Rosenthal, 1994; Snyder, 1992). In one classic study, male perceivers were led to believe that female targets either were or were not physically attractive, by viewing photographs alleged to be of these female targets. Preinteraction assessments showed that perceivers endorsed more positively toned adjectives about targets presumed to be attractive, showing expectancies in accordance with the "beauty equals goodness" stereotype. Participants then engaged in a short "getting-acquainted" conversation over an intercom system (and hence did not meet face to face). The results showed that targets thought to be physically attractive versus unattractive came to behave in a way that was judged by independent observers as more sociable and friendly, confirming the perceivers' prior beliefs (Snyder et al., 1977; see also Andersen & Bem, 1981).

Behavioral confirmation is not inevitable and there are data about conditions under which behavioral confirmation does not occur (see Andersen & Bem, 1981; Bond, 1972; Hilton & Darley, 1985; Ickes, Patterson, Rajecki, & Tanford, 1982; Jussim, 1991; Neuberg, 1989, 1996a, 1996b; Neuberg, Judice, Virdin, & Carrillo, 1993; Snyder, 1992; Snyder & Haugen, 1994, 1995; Swann & Ely, 1984; Swana & Snyder, 1980). In particular, it occurs as a function of motives and interaction goals in both perceivers and targets (for reviews, see Neuberg 1996a, 1996b; Snyder, 1992; Snyder & Stukas, 1998). Behavioral confirmation is especially likely to occur when perceivers are motivated to "get to know" the target and when targets are motivated to "get along" with the perceiver. By contrast, it does not occur when these goal frameworks are reversed (Snyder & Haugen, 1994, 1995). Perceivers with low power, relative to those with high power, do not seem to elicit behavioral confirmation (Copeland, 1994; see also Harris, Lightner, & Manolis, 1998). Other interaction goals, such as the motivation to perceive the target accurately (Neuberg, 1989), the motivation to ingratiate the target (Neuberg et al., 1993), or the motivation by the target to dispel a negative expectancy held about him or her (Hilton & Darley, 1985; Swann & Ely, 1984) have also been shown to moderate behavioral confirmation (see Neuberg 1996a, 1996b; Snyder 1992; Snyder & Stukas, 1998). Although self-fulfilling prophecy effects in naturalistic settings may be quite small (for reviews, see Jussim, 1991; Maddon, Jussim, & Eccles, 1997), the phenomenon clearly exists and has an impact on social relations. Moreover, it need not be based solely on erroneous beliefs, but may also be based on accurate ones (Jussim, 1991, 1993; Maddon et al., 1997; Neuberg, 1996a, 1996b).

Behavioral Confirmation in Transference

Research has demonstrated that one individual's preexisting beliefs about a second individual can elicit behavior from this second person that is consistent with the initial beliefs (for reviews, see Harris & Rosenthal, 1985; Jussim, 1986; Merton, 1948; Miller & Turnbull, 1986; Neuberg, 1996a, 1996b; Olson et al., 1996; Rosenthal & Jacobson, 1968; Snyder, 1992; Snyder & Stukas, 1998). The term behavioral confirmation (Snyder, 1992; Snyder et al., 1977) did, that the process of transference is fundamentally interpersonal. Sullivan argued that people hold in memory "personifications" of the self and of significant others and also "dynamisms"— or dynamics— representing patterns of interactions between the self and the other. When transfer- ence, which Sullivan termed "parataxic distortion" occurs, the new person is experienced by the self as the significant other is typically experienced, and interpersonal patterns or dynamics learned with the significant other are played out as well. In this view then, behavioral patterns are central to transference. Freud's (1914/1963) concept of "repetition compulsion" also makes behavior primary in transference, in that "we may say that here the patient remembers nothing of what is forgotten and repressed, but that he expresses it in action. He reproduces it not in his memory but in his behavior; he repeats it, without of course knowing that he is repeating it" (p. 160). In our work, we make no assumptions either about repression or about invariant repetition, but we endorse the contention that relational patterns play out in behavior in transference.
Of relevance to the present research, the “affect-effort” theory (Rosenthal, 1994; see also Harris, 1993) argues that affect, expressed in terms of warmth and liking, is one of the primary mediators of self-fulfilling prophecy effects, which is supported by empirical evidence (Harris, Moniz, Sowards, & Krane, 1994; Harris & Rosenthal, 1985). In the clinical literature, depressive affect can lead to behavioral confirmation, with depressed people eliciting behavior from others reflecting their own mood and confirming their expectancies for rejection (e.g., Coyne, 1976; Coyne, Burchill, & Stiles, 1991; see also Alloy, Siegel-Fedderly, Kennedy-Moore, & Cohan, 1998). On a related note, rejection sensitivity, defined in terms of anxious expectations for interpersonal rejection, has been shown to elicit behavioral confirmation (Downey, Freitas, Michaelis, & Khouri, 1998). More generally, the overall positive or negative quality of targets’ behavior has often been used as a measure of behavioral confirmation (Snyder et al., 1977; see Andersen et al., 1996), and it has been suggested that affect expressed in interpersonal behavior represents an important class of dependent measures in the study of unstructured social behavior (Ickes, 1982, 1983).

In the present research, we assessed behavioral confirmation in terms of affect expressed in the behavior of the target person in the context of transference. In particular, we focused on the degree to which positive affect was expressed in targets’ behavior in a getting-acquainted conversation. We reasoned that when the target resembled the significant other, the overall positive or negative evaluation associated with the significant-other representation should not only be reflected in perceivers’ preinteraction expectancies (e.g., Andersen et al., 1996) but should also be expressed in the targets’ behavior, as behavioral confirmation. Evidence that the affect associated with significant-other representations emerges in a measurable form in dyadic interactions between unacquainted individuals in transference would provide the first direct evidence that aspects of past relationships emerge in present interpersonal encounters. Past research on the social–cognitive model of transference has amassed considerable indirect support for this prediction but has yet to examine transference in real interpersonal interactions.

It is also of interest to social cognition that no research we know of has shown that exemplar representations (Smith & Zarate, 1990, 1992)—n-of-one representations such as those of significant others—can result in dynamic behavioral processes such as behavioral confirmation. Indeed, research on behavioral confirmation has typically focused on stereotype and trait-based expectancies. There is, in fact, increasing evidence to suggest that generic social categories and exemplars do not always function in the same way, in part because of their differing levels of specificity (see Dijkstra et al., 1998). Hence, showing behavioral confirmation on the basis of a significant-other exemplar would be an advance in social cognition (as suggested in preliminary form by White & Shapiro, 1987).

**Dyadic Interaction and Gender**

Research on transference in everyday social relations has yet to examine the role of gender in transference. In the present experiment, we did so by varying the gender of the significant other and matching it with the gender of the target as a factor in the design. Although we did not make specific predictions about exactly how gender differences might emerge, we did predict that our basic indices of transference, as well as our predicted behavioral confirmation effect, would hold across significant-other and target gender because the process of transference should be uniform, even if its content may vary, as we have argued elsewhere (Andersen & Berk, 1998a).

Indeed, relationships with significant others are defined in part in terms of gender—the other’s and one’s own. Gender-related behaviors are learned early in life in interactions with caregivers (for reviews, see Cross & Markus, 1993; Maccoby & Martin, 1983), and gender-related information about significant others is likely to be part of significant-other representations (just as gender is part of the self-representation; see Berscheid, 1994; Cross & Markus, 1993; Karylowski, Konarzewski, & Motes, 2000). Of relevance to transference, women may attend more to relational information than do men (for reviews, see Acitelli & Young, 1996; Cross & Madson, 1997) and thus may possess greater relational knowledge about significant others (Cross & Markus, 1993). In addition, research on gender differences in social interaction using North American samples has shown that women behave in more emotionally responsive ways than men (e.g., Andersen & Bem, 1981; Cross & Markus, 1993; Deaux & Major, 1987; Eagly, 1987; Ickes & Barnes, 1977). Styles and strategies of interaction that concern status and dominance may be more common among men than women, who may instead tend to engage in affiliation and minimization of status differences (for reviews, see Cross & Markus, 1993; Deaux & Major, 1987; Eagly, 1987; Tannen, 1990; see also Christensen & Rosenthal, 1982). To the extent that such gender differences in emotional responsiveness are stored in significant-other representations they may emerge in behavior in transference, suggesting more affective responsiveness or affiliation among women in transference, although our interest in gender in this study was strictly exploratory.

**The Present Research**

In the present study, we examined the prediction that behavioral confirmation would occur in transference—that is, as a consequence of the activation and use of a significant-other representation to interpret a new person prior to interacting with him or her. In the experiment, we led perceivers to believe that the target they would meet had characteristics resembling their own significant other or resembling a yoked participant’s significant other, using idiographic descriptors collected in an earlier pretest session. In each case, the descriptors characterized a significant other who was regarded either positively or negatively overall. After completing some preliminary measures, perceivers took part in a getting-acquainted conversation with a naive target participant, enabling us to assess behavioral confirmation. We predicted that when the new person was described as resembling the perceiver’s own significant other, this significant-other representation would be activated, along with its overall affective tone, leading to behavioral confirmation by the target person of the affect associated with the significant-other representation. Targets should express more positive affect in their behavior when they appeared to perceivers to resemble their own positively toned versus negatively toned significant other. This pattern of findings should not occur in the control condition, in which perceivers’ own significant-other representations should not have been triggered.
Overview

Two weeks prior to the experiment, in a pretest session, perceivers named and described both a positively toned and a negatively toned significant other and completed positive and negative sentences to describe each one. In the allegedly unrelated experiment, perceivers were randomly assigned to one of eight between-participants experimental conditions. In each, perceivers learned about a male or female target person who resembled either their own positively toned or own negatively toned significant other, or a yoked perceiver’s significant other (who was positively or negatively toned). Perceivers were perfectly yoked across resemblance and no-resemblance conditions on a one-to-one basis, so that perceivers in these two conditions were exposed to the exact same target features. Unlike prior work on transference (e.g., Andersen et al., 1996; Andersen & Baum, 1994), after learning about the target, perceivers took part in a real, unstructured, getting-acquainted conversation over an intercom system with a naive target participant. Targets’ contributions to the conversation were audiotaped separately from perceivers (following Snyder et al., 1997; see also Andersen & Bem, 1981) and were later rated by trained judges on the degree of positive affect expressed in their behavior. We predicted that the overall tone of the significant-other representation would emerge in the target’s behavior in the significant-other resemblance condition. Perceivers also completed self-report indices of transference including inference and memory measure, evaluation, and motivation. These measures were adapted from previous research (e.g., Andersen & Baum, 1994; Andersen et al., 1996; Baum & Andersen, 1999; Hinkley & Andersen, 1996).

Participants and Design

Participants were 240 undergraduates in introductory psychology at New York University who took part in the experiment in partial fulfillment of a course requirement or for payment ($10). Perceivers in the experiment were 120 female undergraduates, each of whom interacted with one naive target participant who also participated in only one interaction. Hence, 120 targets were included in the study, 60 male and 60 female undergraduates. Each perceiver learned about a new person, allegedly the target person, in an entirely between-participants design with eight cells. Specifically, the perceiver learned about a target who resembled her own significant other or a yoked participant’s significant other who was either positively or negatively evaluated (by whichever perceiver initially described this person), and who was either male or female. Thus, perceivers were run in a 2 (participant’s own vs. someone else’s significant other) × 2 (positive vs. negative significant other) × 2 (male vs. female significant other) design, with 15 participants per cell. Exactly the same number of target participants were run in each cell. Equal numbers of men and women were targets so that the gender of the significant other could be manipulated in the experiment, as matched with the gender of the target person with whom the perceiver interacted. Prior research on transference has tended to require 15 participants to match the target participant (the target), and we assumed we would need roughly the same sample size (n) per cell for each gender, crossing perceiver with target gender, for the perfect study examining gender in the dyadic communication of emotion in transference. This rationale was especially compelling to us because the effect size of emotional expression effects might well be expected to be less for male than for female participants, suggesting that merely averaging across gender might not be possible. Hence, we restricted our sample to female perceivers for this study. The difficulty of securing male research participants from our population was also an obstacle, made worse because perceivers took part in both a pretest session and the experiment. Clearly, comparable research involving men as perceivers would be of interest.

Materials and Procedure

Pretest session: Perceivers generate significant-other names and descriptors. At pretest, participants assigned to the role of perceiver in the experiment were greeted by a female experimenter and asked to name two significant others—people they know extremely well, are important in their life, and whom they have known for a long time. In addition, one significant other was to be regarded positively, as someone they like very much, feel good about, and feel happy around. The other was to be regarded negatively, as someone they do not like very much, do not feel good about, and around whom they feel unhappy and bad. Participants were free to list significant others of either gender and to choose any type of significant other. They then labeled the relationship with each individual (e.g., "mother," "brother," "best friend"). We asked participants to select positively and negatively toned significant others with whom their interactions are pleasant versus unpleasant, respectively, to ensure that the significant-other representations studied were associated with behavior reflecting the overall affective tone of the representation and to prevent the elicitation of more complex affects and behaviors, such as "compensatory" responses (positive responses toward negatively toned individuals, see Bond, 1972; Hilton & Darley, 1985; Ickes et al., 1982; Swann & Snyder, 1980). Prior studies of affect in transference have similarly focused on differences in the overall affective tone of the significant-other representation (e.g., Andersen & Baum, 1994), excluding representations associated with ambivalent or ambiguous affect—a strategy that permits examination of representation-derived affect in transference in a straightforward way.

Participants then characterized each significant other, following procedures used in prior research, by listing seven positive and seven negative sentences for each significant other and by identifying irrelevant filler items. A fixed set of these sentences was later used as target descriptors. The significant others listed by perceivers in the experiment were 38% family members, with 25% of the total being parents, 8% mothers and 17% fathers, and the remaining 13% siblings or other relatives. The majority of the significant others listed—49%—were friends. The remaining 13% of the total were romantic partners. These proportions are similar to those found in prior work on transference (e.g., Andersen & Baum, 1994; Hinkley & Andersen, 1996).

At the end of the pretest session, all participants were asked to take part in an allegedly unrelated study (the experimental session), conducted by a different experimenter. All participants remained in our pool to contact, so there was no preselection of participants beyond willingness to participate. Almost all agreed. One hundred twenty participants were scheduled for the experiment and randomly assigned to a condition. Following these procedures, participants were partially debriefed and thanked.

Perceivers’ experimental session: Preconversation preliminaries. Perceivers arrived for the experiment at a different lab room and were met by a different female experimenter who was blind to the experimental condition. Perceivers were told that the study involved how people interact with each other in a getting-acquainted situation and that they would receive some information about the other person in advance, in the context of the standard cover story used in prior work (see Andersen et al., 1996). This enabled us to present perceivers with target descriptors that would elicit transference and behavioral confirmation (e.g., Snyder et al., 1977; see also Andersen & Bem, 1981).

Perceivers were then informed that they would talk over an intercom with the other participant (the target), seated next door, for 8 min. It was emphasized to both perceivers and targets that they would not encounter the other participant face to face and that their identity would not be revealed. Perceivers were also told that the information they would be receiving about the other participant was obtained with his or her consent and did not include identifying information—although the person would not know specifically what information about him or her, if any, was actually shared. Hence, perceivers were asked not to mention this information to the target during their conversation. Although perhaps awkward, this instruction was necessary to minimize the chance that the perceiver would reveal during the conversation that she had seen target descriptors.
that were not actually true of the target (as in Andersen & Bem, 1981). Perceivers were also told that an expert interviewer had interviewed the target earlier and that the interviewer’s descriptions of the target would be the information they would receive. We added the further proviso that we asked the interviewer to provide a “balanced” assessment, including both positive and negative attributes.

Perceivers learned about the target person. Each perceiver learned about a target who resembled her own or another perceiver’s significant other, who was either liked or disliked by the perceiver who listed that significant other. Perceivers were yoked across the experimental and control conditions, such that each perceiver in the yoked-control condition saw the same descriptors as were shown to each perceiver in the significant-other resemblance condition. Perceivers were then exposed to 14 sentences allegedly describing the target participant. The descriptions, in a fixed random order, included 8 target descriptors (4 positive and 4 negative) derived from those that the participant in the significant-other resemblance condition listed for a positively toned or negatively toned significant other at pretest, along with 6 filler items.

Dependent measures completed by perceivers before the conversation. To assess transference, we asked perceivers to complete self-report measures used in prior research as basic indices of the transference effect (e.g., Andersen & Baum, 1994; Andersen et al., 1996). Perceivers completed a measure of evaluation (liking) and of motivation to be close to the new person. Each was assessed by a composite of several Likert-type scale ratings and demonstrated high internal consistency (evaluation, $\alpha = .93$, motivation, $\alpha = .83$). Order was systematically counterbalanced (for details, see Andersen et al., 1996).

Perceivers also completed a second evaluation measure, consisting of 17 bipolar adjectives previously used to measure preinteraction expectancies (e.g., to show positive expectancies about physically attractive people; Andersen & Bem, 1981; Snyder et al., 1977). It included items such as boring—interesting and dull—exciting (adapted from Dion, Berscheid, & Walster, 1972; see also Ekes et al., 1982) and provided a second, less obvious, index of evaluation, using a scale ranging from $-5$ to $+5$. The interitem reliability for these items was high ($\alpha = .86$).

All perceivers were given a list of neutral conversation topics such as, “What are you intending to major in?” and “What kind of music do you like to listen to?” to help start the conversation if needed. Perceivers were instructed to use the conversation “as an opportunity to get to know” the other participant and “to find out what he/she is really like as a person,” as well as to “form a stable and predictable picture” of the person by “finding out ways in which he/she is and is not like what you expect” (adapted from Snyder, 1992; Snyder & Haugen, 1994). These instructions were designed to facilitate perceivers’ motivation to get to know the target, a motivation demonstrated to underlie behavioral confirmation in getting-acquainted situations (Snyder, 1992; Snyder & Haugen, 1994). To maintain confidentiality, participants were asked not to mention their last name or dormitory.

The conversation. Perceivers started the conversation, which was conducted using an intercom system connected to a tape recorder. The target’s contribution to the conversation was recorded separately from the perceiver’s, enabling judges to listen to the target’s portion of the conversation independently, which is necessary for a “pure” assessment of behavioral confirmation (Snyder et al., 1977; see also Andersen & Bem, 1981). Both participants were alone during the conversation.

Perceivers’ postconversation memory confidence. Following the conversation, perceivers completed the inference and memory measure used in prior work, which assesses the tendency to “go beyond the information given” (Bruner, 1957) about the new person on the basis of the significant-other representation (e.g., Andersen & Cole, 1990; Andersen & Baum, 1994). As in prior work, this memory measure consisted of 20 target descriptors in a fixed random order, 12 of which had not been presented during the learning trial as target descriptors and 8 of which had been presented (Andersen et al., 1996). Of the 12 not previously presented, 6 were taken from those the perceiver in the resemblance condition wrote to describe her own positively or negatively toned significant other. These included both the positive and negative descriptors for each significant other, whether positively or negatively toned overall. These representation-derived, not-presented descriptors are the crucial items used to assess the tendency to “fill in the blanks” about the new person. (Perceivers in the yoked condition received the exact same memory test as the perceiver in the resemblance condition that they were paired with.) The 6 remaining unspecified descriptors were irrelevant fillers. Of the 8 descriptors previously presented, 4 were derived from the representation and 4 were fillers. Perceivers rated their confidence, on a 4-point scale, that each descriptive phrase had been presented about the target prior to the interaction (Andersen & Baum, 1994; Andersen et al., 1996).

Perceivers’ debriefing. Debriefing emphasized that the target descriptors read were not actual descriptors of the target but were written by them themselves or another perceiver in the pretest session.

Target’s experimental session and conversation. Participants assigned to the role of target were naïve about the experimental procedures experienced by perceivers and did not participate in a pretest session. Targets arrived individually and were met by another female experimenter on a different floor from the perceiver, ensuring that perceivers and targets would not see each other prior to the experiment. The target was informed that the experiment involved having a getting-acquainted conversation with another participant via an intercom; the conversation would later be assessed by trained judges. In debriefing, targets were told we were studying behavioral confirmation and thus gave the perceiver false information about him or her, emphasizing that the perceiver was now being fully informed of this.

Judges’ Ratings of Targets’ Behavior

Five independent judges, blind to condition, listened to the target’s half of the conversation only and rated his or her behavior impressionistically in terms of the degree to which it expressed positive affect. Using a 7-point scale ranging from 1 (not at all) to 7 (extremely), judges responded to two questions designed to measure positive affect: “To what extent is this person expressing positive feelings during this conversation?” and “To what extent is this person expressing negative feelings during this conversation?” The two items were averaged to create a positive affect composite. These items were part of composites used in prior work on behavioral confirmation that used a nearly identical design to assess emotional responsiveness (Andersen & Bem, 1981; Snyder et al., 1977) and were adequately intercorrelated ($\alpha = .76$).

2 Items for the evaluation and motivation composites were chosen on the basis of previous factor-analytic work using these measures (Andersen et al., 1996). The motivation composite was shortened from its original 8-item form (Andersen et al., 1996) to save time. To verify the meaningfulness of the composites in the present study, we conducted our own factor analysis on the 11 items included in both composites. As expected, two factors emerged. The first included all seven evaluation items, with factor loadings of .58 or higher, accounting for 60% of the variance. The second included all four motivation items, with factor loadings of .68 or higher, accounting for 11.8% of the variance. These results support prior work (Andersen et al., 1996).

3 Some examples of the crucial items used in the memory test, derived from one participant’s description of her positively regarded female significant other, not presented during the learning trial as target descriptions include “she is always willing to help,” “she is not always tactful,” “she is very religious and deeply spiritual,” “she is unnecessarily critical at times,” “she is a caring listener,” and “she is overly analytical.” Examples of items also representation-derived, but presented during the learning trial include “she is extremely objective,” “she can be lazy,” “she is extremely talkative,” “she is always willing to share,” “she always seems to know the answers,” “she can be sloppy in appearance,” and “she has difficulty saying no.” Finally, irrelevant filler items (previously presented or not) include “she is lucky” and “she is curious.”
Judges participated in a training session and were told to pay attention to "the tone of the person's voice, the types of things he or she talked about, and the kinds of emotions he or she may have been experiencing during the conversation." They independently rated the targets' side of each conversation only (n = 120). Interjudge reliability was less than impressive (.59), as estimated by the Spearman-Brown formula (Cronbach, 1949), even as compared with other studies using this kind of paradigm (.73 and .82, using the Spearman-Brown formula, Andersen & Bem, 1981; a median interclass correlation of .76, Snyder et al., 1977). We cannot be sure why reliability was relatively low in this case, but we assume that variation in targets' behavior not captured by overall affect was the issue. Moreover, global impressionistic rating scales leave considerable room for interpretation. Of course, reliability primarily sets an upper limit on validity that can be detected—that is, on the central effects we predict. Hence, this low reliability biases neither our design nor our data in the direction of our hypothesis.

In addition, a different set of five judges, blind to condition, listened to perceivers' side of the conversation only and responded to the same two questions measuring positive affect, which were highly intercorrelated (α = .87). In this case, interjudge reliability was relatively high (.83), using the Spearman-Brown formula (Cronbach, 1949), in contrast to that for targets. We speculate that this may be due to the relatively more focused and structured task perceivers had of getting to know the target, whereas the targets' task was more open-ended and was about responding to overtures.4

Judges rated the first 4 min of each conversation because prior research suggests that expectancy-based behaviors are most pronounced in the initial phases of the encounter. In fact, expectancy effects have been shown in the first minute of interaction (Thomas & Malone, 1979) and may decline over time (see Ickes et al., 1982; Swann & Ely, 1984). The transference phenomenon has also been shown to occur with immediacy, as reflected in research indicating transference is activated automatically and nonconsciously (Glassman & Andersen, 1996a) and in immediate expressions of facial affect (Andersen et al., 1996). Hence, the first minutes of the conversation seemed particularly important. Moreover, we speculated that a decrease in transference-based behavior over time may be particularly likely to occur in this paradigm where perceivers expectancies of targets are based on manipulated resemblance to a significant other, and this false impression could readily be disconfirmed by actual qualities of the target revealed during the course of the interaction.

Judges were female undergraduates at New York University who assessed both male and female targets and our all-female perceivers. We acknowledge that male judges might have assessed expressions of affect in male and female participants differently than female judges, yet it is hard to see how the complex pattern of findings we predict in transference could be accounted for by judges' gender.

Results

Behavioral Confirmation in Target Participants' Conversational Behavior

To determine whether behavioral confirmation by targets occurred as a function of significant-other resemblance and the overall tone of the significant-other representation, we examined judges' average rating of the degree of positive affect expressed by targets in their behavior during the conversation. We predicted that judges would rate targets as having expressed more positive affect in their conversational behavior when they appeared to resemble the perceiver's own positively toned significant other rather than the perceiver's own negatively toned significant other, an effect not expected in the yoked-participant control condition. That is, in the significant-other resemblance condition, the overall tone of the perceiver's significant-other representation should emerge in the affect expressed in targets' behavior, which would demonstrate behavioral confirmation.

To test this hypothesis, we examined the positive affect composite derived from judges' ratings in a 2 (participant's own vs. yoked participant's) × 2 (positively vs. negatively toned) × 2 (male vs. female significant other) analysis of variance (ANOVA). As predicted, the analysis yielded a reliable interaction between significant-other resemblance and the overall tone of the representation, F(1, 112) = 4.72, p < .03.5 As portrayed in Figure 1, our planned contrast indicated that targets came to express more positive affect in their conversational behavior when they were portrayed to resemble perceivers' own positively toned significant other (M = 4.91) rather than their own negatively toned significant other (M = 4.67), t(112) = 2.24, p < .02 (with a moderate effect size, d = .49).6 No such effect occurred in the no-resemblance condition (positive, M = 4.74; negative, M = 4.83), t(112) < 1. No three-way interaction with gender occurred (F < 1), showing that this predicted effect occurred in targets' behavior based on both male and female significant-other representations, and hence for both male and female targets (who resembled male versus female significant others, respectively).

To determine whether the effect may have varied by the type of relationship with the significant other, we did an internal analysis comparing significant others who were family members (parents, siblings, and other relatives, n = 46) with those who were not (friends and romantic partners, n = 74) in a 2 (participant's own vs. yoked participant's) × 2 (positively vs. negatively toned) × 2 (relationship type) ANOVA. The same resemblance by overall tone interaction emerged, F(1, 112) = 3.97, p = .049, and there was no three-way interaction with relationship type (F < 1), suggesting the effect held for both types of relationships. Cell means for these two relationship types are shown in Table 1, and they are in the direction of our predictions for each relationship type. On the other hand, because the small and uneven n per cell severely reduces statistical power, unequivocal conclusions based on the null hypothesis are not possible.

Returning to our initial analysis (averaging across relationship type), the analysis also yielded an unpredicted two-way interaction between significant-other resemblance and significant-other gen-

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4 In fact, sometimes reliability for perceivers is somewhat lower than that for targets (.44 for perceivers and .78 for targets, was found by Andersen & Bem, 1981; 61 and .755 was found by Snyder et al., 1977).

5 It should be noted that this analysis—as well as all of the data analyses reported here—which used between-participants ANOVAs, can also be conducted as mixed-model ANOVAs. This would treat the transference condition and the yoked-control condition, which use the same set of target descriptors (derived from the significant-other descriptions of the participant in the transference condition), as a single case. Hence, significant-other resemblance can be construed as a repeated measure. Prior work on transference using the same design and dependent measures (with the exception of the behavioral measure) yielded nearly identical results when repeating every between-participants ANOVA as a mixed-model ANOVA, with no increased or decreased analytic sensitivity (see Andersen et al., 1996). In the present study, the identical interaction showing our behavioral confirmation effect emerged using such a mixed-model ANOVA, F(1, 58) = 4.73, p = .03.

6 All planned contrasts are t tests (using the mean-square error) and are based on a priori hypotheses and are thus one-tailed, unless otherwise noted.
Table 1
Judges' Mean Rating of Positive Affect Targets Expressed in Their Behavior as a Function of Significant-Other Relationship Type, Significant-Other Resemblance, and the Overall Affect Associated With the Representation

<table>
<thead>
<tr>
<th>Condition</th>
<th>Positive Tone</th>
<th>Negative Tone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Significant-other resemblance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family: Parents, siblings, and other relatives</td>
<td>4.97 (7)</td>
<td>4.73 (16)</td>
</tr>
<tr>
<td>Nonfamily: Friends and romantic partners</td>
<td>4.89 (23)</td>
<td>4.61 (14)</td>
</tr>
<tr>
<td><strong>No-resemblance control</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family</td>
<td>4.74 (7)</td>
<td>4.84 (16)</td>
</tr>
<tr>
<td>Nonfamily</td>
<td>4.74 (23)</td>
<td>4.83 (14)</td>
</tr>
</tbody>
</table>

Figure 1. Judges' average rating of the positive affect targets expressed in their behavior as a function of significant-other resemblance and the overall affect associated with the representation.
Hence, this unpredicted gender effect in transference appears to hold across relationship type.

**Perceivers' Conversational Behavior**

Behavioral confirmation should occur as a result of perceivers' behavior toward targets. Hence, we also examined effect in perceivers' behavior. We predicted that perceivers would exhibit more positive affect in their behavior when the target allegedly resembled their own positively toned versus negatively toned significant other. We examined judges' average rating of the positive affect perceivers expressed in their behavior—in the same $2 \times 2 \times 2$ ANOVA. Our predicted two-way interaction between resemblance and overall tone, however, did not emerge, $F(1, 112) < 1$, providing no evidence for the prediction that affect deriving from the activated significant-other representation would be expressed in a straightforward manner in perceivers' behavior. Hence, the positive affect expressed in targets' behavior—as a function of significant-other resemblance and overall tone—cannot be accounted for by a comparable expression of positive affect in perceivers' behavior.

However, to determine whether there might be a relationship between any positive affect perceivers expressed in their behavior and that expressed by targets, we conducted a multiple regression in which we treated target behavior as the dependent variable and perceiver behavior as the independent variable, controlling for all main effects (resemblance, overall tone, gender) and all potential interaction effects by entering them, respectively, into the equation prior to entering perceiver behavior. As predicted, targets' behavior was in fact reliably predicted by perceivers' behavior ($\beta = .18$, additional variance, 3%), $F(8, 111) = 4.13, p = .045$. Hence, although the predicted affect in perceivers' behavior did not emerge in our ANOVA, this regression shows that there was a relationship between perceiver and target behavior—over and above all other sources of variance that were partialed out of the analysis—supporting the assumption that some aspect of perceivers' behavior played a role in targets' behavior.

As another way of examining the relationship between perceiver and target effects in light of the null result obtained for perceivers, we also compared perceiver and target behavior in a $2 \times 2 \times 2$ ANOVA with perceiver-target behavior as a repeated measure, collapsing across target gender. This analysis yielded no three-way interaction ($F < 1$), suggesting that no significant difference between perceiver and target behavior was detectable across conditions. However, this analysis is largely uninformative about the effects (and lack thereof) already reported given that the two-way interaction between resemblance and tone found for target behavior washed out when perceiver and target effects were examined in tandem.

Returning to our ANOVA examining perceivers' behavior (only), we did, however, obtain one interesting and unpredicted finding. The same unpredicted two-way interaction between significant-other resemblance and significant-other gender emerged as observed in the target data, $F(1, 112) = 5.05, p < .03$. As with targets, contrasts indicated that perceivers expressed more positive affect in their behavior when the target they were interacting with resembled their own female significant other (and was female, $M = 5.43$) than resembling their own male significant other (and being male, $M = 4.96$), $t(112) = 2.35, p < .05$ (two tailed, with a medium effect size, $d = .57$), a pattern not observed in the control condition (female, $M = 5.03$; male, $M = 5.22$), $t(112) = 1.0$, ns. This unpredicted effect was reliable for both perceivers and targets. It thus appears that a simple reflection in targets' behavior of the affect expressed in perceivers' behavior can occur in transference. However, it is not the only mechanism by which behavioral confirmation occurs in transference, as this does not appear to be the mechanism underlying our predicted effect of behavioral confirmation based on the overall tone of the significant-other representation.

**Verifying Transference Using Self-Report Measures**

To verify that transference occurred in this study, as a function of the target's resemblance to the significant other, we assessed evaluation of the new person, motivation to be emotionally close with him or her, and also inference and memory. These measures are basic indices of transference and were each examined in the same $2 \times 2 \times 2$ ANOVA.

**Evaluation.** As predicted, significant-other-derived evaluation clearly emerged in the significant-other resemblance condition. That is, analysis of a composite of perceivers' ratings yielded a highly reliable two-way interaction between resemblance and overall tone, $F(1, 112) = 10.55, p < .002$. Perceivers evaluated the target more positively when he or she resembled their own positively toned significant other ($M = 4.98$) rather than their own negatively toned significant other ($M = 3.38$), $t(112) = 6.05, p < .001$ (with a large effect size, $d = 1.54$). This was far less true for participants in the control condition (positively toned, $M = 4.20$; negatively toned, $M = 3.84$), $t(112) = 1.36, p < .09$ (with a small to moderate effect size, $d = .34$), although the means were in the same direction. No main effect nor interaction with gender emerged ($F < 1$), suggesting that this schema-triggered evaluation effect generalized across target and significant-other gender.

Virtually identical results emerged with a less direct measure of evaluation previously used to measure the stereotype "beauty equals goodness" (see Andersen & Bern, 1981; Snyder et al., 1977). Perceivers rated targets using bipolar trait rating scales, and analysis of the summed ratings yielded a highly reliable interaction, $F(1, 112) = 9.51, p < .003$, again showing that perceivers evaluated the target more positively when the target resembled their own positively toned significant other ($M = 2.15$) rather than their own negatively toned significant other ($M = 0.48$), $t(112) = 5.28, p < .001$ (with a large effect size, $d = 1.36$). This did not occur in the yoked-participant control condition ($t < 1$). These data provide converging evidence that transference occurred in the present study, and again showed no interaction with gender ($F < 1$).

**Motivation.** Transference was also assessed in terms of perceivers' self-reported desire to emotionally approach versus emotionally distance from the target. Analysis of a composite of perceivers' average ratings yielded the same predicted two-way interaction between resemblance and overall tone, $F(1, 112) = 8.63, p < .004$. Planned contrasts showed that participants indicated more motivation to approach versus avoid targets resembling their own positively ($M = 4.07$) versus negatively toned ($M = 2.70$) significant other, $t(112) = 4.84, p < .001$ (with a large effect size, $d = 1.06$). This effect did not occur when the target resembled a yoked participant's significant other (positive, $M = 3.21$; negative, $M = 3.12$), $t < 1$. The motivation for emotional closeness occurred as a function of the overall tone of the significant-other representation triggered in transference.
Inference and memory. We also examined inference and memory in transference—the tendency to "go beyond the information given" about the new person using the significant-other representation. We assessed perceivers' memory confidence that they had been presented with descriptors of the target that were not actually presented to them but that were derived from the significant-other representation. As predicted, the analysis yielded a highly reliable main effect for significant-other resemblance, \( F(1, 112) = 18.04, p < .00001 \), showing higher memory confidence ratings for these crucial items when the target resembled the perceiver's own significant other (\( M = 1.79 \)) rather than a yoked perceiver's (\( M = 1.34 \)). No interaction between resemblance and overall tone emerged (\( F < 1 \)), showing that the effect held for both positively toned (own, \( M = 1.83 \); yoked, \( M = 1.43 \)) and negatively toned (own, \( M = 1.74 \); yoked, \( M = 1.26 \)) significant others. No effects for gender were found (\( F_s < 1 \)).

Judges' Objective Rating of Descriptor Valence for Male Versus Female Significant Others

To examine possible differences in the positivity of the significant others that perceivers listed, as a potential source of the unpredicted gender effect found in the behavior of both perceivers and targets in transference, we asked two independent judges to rate each of the eight target descriptors presented to perceivers in the experiment (derived from male and female significant-other representations and used to describe male and female targets). In each case, there were four positive and four negative descriptors presented, each labeled as positive or negative by the perceiver in the pretest. Judges rated each descriptor in terms of its positivity, using a scale ranging from \(-5\) to \(+5\). Interjudge reliability was good (\( r = .85 \)), and judges' average rating of the target descriptors was examined in a 2 (positive vs. negative overall tone) \( \times \) 2 (male vs. female significant other) \( \times \) 2 (positive vs. negative descriptor) ANOVA, with descriptor valence as a repeated measure. Identical target descriptors were presented to the perceiver in the significant-other resemblance condition and to the perceiver in the yoked-control condition with whom she was paired (e.g., Andersen et al., 1996). Hence, judges rated 60 sets of descriptors (15 sets each for positively and negatively toned male and female targets).

The analysis yielded no main effect for significant-other gender nor any interactions with gender (\( F_s < 1 \)). Hence, the greater positive affect observed in perceivers' behavior toward female versus male targets in transference and the subsequent behavioral confirmation by targets of this positive affect cannot be accounted for by greater positivity in the objective valence of the descriptors presented about female versus male targets in the experiment. A highly reliable main effect for descriptor valence did occur, \( F(1, 56) = 627.62, p < .0001 \), verifying that participants followed our instructions to list descriptors of each valence regardless of the overall tone of the representation. The analysis also yielded a reliable main effect for overall tone, \( F(1, 56) = 23.31, p < .0001 \), showing that judges perceived the overall tone of the representation in descriptor valence. Because this is constant across the significant-other resemblance and control conditions—because of identical target descriptors in these conditions—it cannot account for any observed transference effects.

Beyond the experiment, we also examined all of the descriptors originally provided by all participants at pretest (8 positive and 8 negative), and not just those presented in the experiment, to determine whether female significant others were described more positively than male significant others overall. Judges' average rating of the 14 descriptors was examined in the same ANOVA. Again, interjudge reliability was good (\( r = .87 \)). As in the prior analysis, no main effect emerged for significant-other gender, suggesting no simple difference in the overall tone of female versus male significant-other representations. However, a reliable interaction between overall tone and significant-other gender did emerge, \( F(1, 56) = 4.53, p < .038 \), suggesting greater extremity in the relative ratings of positively versus negatively toned significant others who were female (\( M = .94 \) vs. \( M = -.34 \)) rather than male (\( M = .65 \) vs. \( M = .00 \)), even though the contrast between positive and negative significant others was pronounced and reliable in

\[ \text{For exploratory purposes, we conducted mediational analyses for the predicted behavioral confirmation effect using a composite of our evaluation and motivation measures as the potential mediator. The data did not yield evidence of mediation. We note, however, that we do not propose a mediational model in this research. True, the activation and use of significant-other representations should influence evaluation and motivation indices on the basis of the overall tone of the representation, but these indices should not necessarily mediate behavioral confirmation. This should occur only if they capture the primary elements of perceivers' behavior that directly accounts for the behavior elicited in targets. We did not assume this. Instead, we assumed that our measures of significant-other activation and use (transference) are imperfect and even incomplete as indices of transference but are especially so as indices of the complex transactional dynamics that may emerge between perceivers and targets in real interactions involving transference. Hence, it is no surprise that these self-report indices of transference do not statistically mediate the effect. To be more precise about our actual assumptions, we argue that significant-other resemblance in a new person (our manipulated variable) leads to the activation and use of the significant-other representation, which we index by measuring various transference phenomena. These indices include significant-other-based inference and memory, evaluation, motivation, and should also involve yet unidentified behavioral responses in the perceiver, and within dyadic interaction, behavioral confirmation in the target person. Our indices of transference are not mediators but are our best indicators of the effect, that is, of significant-other activation and use. Of course, more direct and immediate indicators of heightened accessibility would in principle be closer to directly tapping these processes than our somewhat more downstream self-report indicators, and these were not included in this study. Indeed, an important scholarly and scientific debate is emerging on the necessity of mediational analyses in experimental research. In such research, mediational evidence is neither necessary nor unequivocal (Sigall & Mills, 1998). If there is no plausible alternative explanation for a given effect (that a manipulated independent variable \( X \) causes the dependent variable \( Y \)), such as the independent variable is not what it appears to be, then mediational evidence is not necessary to show that \( X \) causes \( Y \). This is the value of an experimental design. If one has mediational evidence, then, it should add little to the confidence one should have had without it. In terms of the present study, we can think of no other plausible explanation for the behavioral confirmation effect we report other than the activation and use of significant-other representations. Under the condition of significant-other resemblance in the target person, we have evidence that transference occurred in this condition and have demonstrated that behavioral confirmation occurred in this condition as well, predicted by the overall tone of the representation.} \]
each case ($ps < .005$). On the one hand, these data provide no support for a simple valence-based account of the gender differences in behavior observed in transference. On the other hand, they suggest that our perceivers (all female) may have held more extensive and emotionally laden knowledge about their female versus male significant others in terms of evaluative extremity. We speculate that this may be due to closer relationships between these female participants and their female significant others, a difference in emotional investment that could perhaps account for these unpredicted results. And, as noted earlier, the exact nature of the relationship between participants and their significant others did not interact with this gender effect.

### Discussion

This research demonstrates that behavioral confirmation occurs in transference, as measured in real encounters between perceivers and naive targets, whose alleged characteristics, presented in advance of the interaction, either did or did not derive from the perceivers' own positively or negatively toned significant others. The target person was randomly assigned to a condition and thus did not actually resemble the significant other. We predicted that when the target appeared to resemble the perceiver's own significant other, behavioral confirmation of the affect associated with the significant-other representation would occur on the basis of the activation and use of the significant-other representation to interpret the target. The results support this prediction. Independent judges' ratings of targets' behavior during the conversation with perceivers showed that targets expressed more positive affect when portrayed to resemble perceivers' own positively toned significant others rather than perceivers' own negatively toned significant others. By contrast, this effect did not occur in the control condition, where the target resembled a yoked participant's positively or negatively toned significant other. Hence, behavioral confirmation of the overall affective tone of the significant-other representation occurred in targets' behavior in transference, that is, when the significant-other representation was activated and used.

Converging findings using self-report indices demonstrate that transference occurred in this research, replicating previous findings (see Andersen & Baum, 1994; Andersen & Cole, 1990; Andersen et al., 1996, 1995; Baum & Andersen, 1999; Hinkley & Andersen, 1996). As in prior work, the inference and memory effect occurred, showing that perceivers were more willing to go beyond the descriptors initially presented about the target—in the direction of the significant-other representation—when the target resembled their own significant other rather than a yoked-participant's significant other (e.g., Andersen & Cole, 1990; Andersen et al., 1995). Also as in prior work (Andersen & Baum, 1994; Andersen et al., 1996; Baum & Andersen, 1999), perceivers evaluated targets more positively and were more motivated to emotionally approach targets when they resembled their own positively toned rather than negatively toned significant others. No such effects occurred in the control condition in which the significant-other representation should not have been activated. Taken together, these findings show that perceivers encountering targets resembling their own significant others responded to them using their significant-other representations, presumably because resemblance to the given significant others activated the corresponding representations. Because behavioral confirmation of the overall tone of the significant-other representation also occurred in this same experimental condition—in which targets resembled perceivers' own significant others—it occurred in transference.

Prior research rules out the explanation that data showing transference can be accounted for by normative, shared knowledge, as in global theories about people. That is, if global theories are activated in the transference paradigm, rather than significant-other representations, then the inference and memory effect, for example, should not differ between significant-other representations, which involve self-generated target descriptors that are chronically accessible, and other kinds of representations or social categories that also involve self-generated descriptors that are therefore also quite chronically accessible. However, it has been shown that this memory effect favors significant-other representations over other representations within the same participant, such as nonsignificant-other representations and stereotypes (Andersen et al., 1995; S. Chen et al., 1999; Glassman & Andersen, 1999a).

Hence, idiographic global theories—reflected in the various descriptors one freely lists from memory—cannot account for the transference effect overall. Research triggering multiple significant others from participants' lives would be still more valuable in tracking the distinctive effects of particular significant-other representations. Of course, we cannot fully rule out the alternative explanation that idiographic positive versus negative person schemas, developed independently of significant-other representations and extending beyond any single significant other, account for the present data. Even if this were true, however, it would remain noteworthy that significant-other descriptors, balanced in terms of valence, provoke the global significant-other theory and the observed responses. On the other hand, if the effect were accounted for simply by nomothetic, global person schemas, positive or negative ones, rather than by idiographic significant-other representations, resemblance to the significant other relative to the yoked-control condition should have made little difference.

Although behavioral confirmation of the overall affect associated with the significant-other representation occurred in transference as predicted, a comparable expression of affect was not observed in perceivers' behavior toward targets. That is, according to the ratings of independent judges, perceivers did not express reliably more positive affect in their behavior toward targets resembling their own positively versus negatively toned significant others, even though this pattern of positive affect was observed in targets' behavior. Because behavioral confirmation occurred, the evidence necessarily suggests that perceivers did somehow convey the affect associated with their significant-other representations to targets. Otherwise, it is difficult to see how this pattern of affect could have emerged in the behavior of naive targets. Supporting this notion, perceivers' behavioral expression of affect was a reliable predictor of targets' behavioral expression of affect.

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8 This analysis again yielded a main effect for descriptor valence, $F(1, 56) = 1004.34, p < .0001$ (positive, $M = .79$; negative, $M = -.17$) and for the overall tone of the representation, $F(1, 56) = 42.46, p < .0001$, (positive, $M = .79$; negative, $M = -.17$).

9 In prior work on transference, participants self-generated the target descriptors they were later presented with and also those in the recognition-memory tests, and yet these descriptors were derived either from a stereotype the participant identified or from no particular representation, we were able to rule out self-generation effects as the locus of the inference and memory effect (Andersen & Cole, 1990; Andersen et al., 1995; S. Chen et al., 1999; Glassman & Andersen, 1999a).
Hence, evidence of a relationship between affect in perceivers’ behavior and in targets’ behavior was obtained. Moreover, one could also argue that perceiver and target behavioral effects were not significantly different from each other, supporting comparable findings, although these data are inconclusive because our predicted effect observed for target behavior washed out when perceiver and target behavior were examined in the same analysis. Overall then, the present data are silent as to exactly what behaviors of perceivers produced the predicted behavioral confirmation effect in targets’ behavior. We acknowledge that the lack of more elaborate evidence showing the relation between perceivers’ and targets’ behavior is a limitation of this research. Our data do, however, provide clear evidence of behavioral confirmation in targets’ behavior, along with evidence of a relationship between perceivers’ and targets’ behavior. Indeed, not all studies reporting behavioral confirmation have found results for perceiver behavior (e.g., Major, Cozzarelli, Tesia, & McFarlin, 1988).

Given that we included only female perceivers in the present study, the generalization of this behavioral confirmation effect to male perceivers remains an empirical question. However, we see no reason for the effect not to occur in male perceivers, and, in fact, it has been shown that male perceivers are more likely to elicit behavioral confirmation from targets than female perceivers, presumably because women are more affiliative and accommodating in social interactions than men (Christensen & Rosenthal, 1982). These findings suggest another possible reason why the source of behavioral confirmation in the behavior of our female perceivers’ may have been difficult to detect. That is, transference-based behavior toward targets by the all-female perceivers in the present study may have been somewhat attenuated by their desire to maintain a smooth and pleasant interaction (see also Snyder 1992; Snyder & Haugen, 1994). Relatedly, individuals high in social power are more likely to elicit behavioral confirmation than those who are not (Copeland, 1994; Harris et al., 1998), again suggesting the likelihood of male perceivers eliciting behavioral confirmation.

**Relevance of Behavioral Confirmation of Significant-Other Knowledge in New Relations**

The relevance of these data for theories in the social–cognitive literature can be seen in part in terms of the auto-motive model (e.g., Bargh, 1997), which has shown that the activation of a generic social construct (trait or stereotype) leads to the activation of behavioral tendencies, goals, or motives, the emergence of specific behaviors, and behavioral confirmation (M. Chen & Bargh, 1997). The present data, in which the activation of a significant-other exemplar representation activates motives to emotionally approach the new person and promotes associated interpersonal behavior in terms of behavioral confirmation, provides the first evidence we know of that this auto-motive–like process occurs for exemplars as well as for generic social knowledge. Moreover, these data are among the first we know of to demonstrate behavioral confirmation based on an exemplar rather than on generic knowledge, a matter of importance in its own right.

The data also provoke speculation that behavioral confirmation based on transference may occur in ongoing relationships as well as in first encounters. Although we examined initial encounters in the present research, we assume that behavioral confirmation in transference can occur in ongoing relationships as well, such that, over time, present relationships may come to resemble past ones.

Recent work in the literature on close relationships on the “Michelangelo effect” demonstrates a process related to behavioral confirmation in which one romantic partner’s affirmation of the other’s ideal self—by means of perceptions and behavior—is associated with movement toward the ideal self, as well as stability in relationships (Drigotas, Rusbult, Wieselquist, & Whitton, 1999). This research highlights the importance of partner influence on the self in relationships (see also Aron, Aron, Tudor, & Nelson, 1991) and the role of behavioral confirmation processes in long-term relationships (see also Murray, Holmes, & Griffin, 1996).

The present data are also of broad relevance to the literature on close relationships (for a recent review, see Berscheid & Reis, 1998) and, in particular, on adult attachment, which focuses on the impact of early relations on current interpersonal dynamics (e.g., Collins & Read, 1990; Hazan & Shaver, 1987; Simpson, 1990; Thompson, 1998; see also Andersen et al., 1997; S. Chen & Andersen, 1999). The present work demonstrates that aspects of old relationships play out in new ones, suggesting that our work is directly relevant to the processes assumed to underlie the influence of attachment in new relationships, by means of the triggering of working models in an existing relationships (e.g., Simpson, 1990) or in social perception (e.g., Mikulincer, 1995, 1999).

We recognize, of course, that the affect associated with significant others is likely to include more complex and ambivalent feelings than the positive–negative distinction this study captures. In fact, research has shown that the overall evaluation of a parent can be positive and yet one can experience depressive or agitation-related affect when this parental representation is activated and used in transference, as a function of self-discrepancies held from the parent’s perspective (Reznik & Andersen, 1998). Research on attachment theory has suggested that differences in the coherence of parental representations, as well as self-other differentiation, may be more important in attachment than whether these individuals are regarded positively or negatively overall (e.g., Blatt, et al., 1991; Main, 1996). Examining such issues in transference and as they play out in transference-based behavior is needed.

Because past relationships with significant others that were negative or otherwise dysfunctional or painful may lead to suffering when replayed in a new relationship (Andersen & Berk, 1998b), an examination of how transference-based behaviors may play out in relationships over time is important. Consistency over time in transference has been shown in terms of inference and memory effects over a short period of a few weeks, but has not yet been examined in close relationships (Glassman & Andersen, 1999b). Indeed, psychodynamic theories consider interpersonal behavior, particularly in patient–therapist relationships, to be at the heart of transference (Andersen & Berk, 1998a; Luborsky & Crist-Christoph, 1990; Sullivan, 1953; Wachtel, 1981). Hence, the question of how transference-based behaviors contribute to suffering in relationships—both in the “real” world and in treatment—is of long-standing clinical relevance and is ripe for further empirical investigation.

**Significant-Other Gender in the Behavioral Expression of Affect in Transference**

In addition, an unpredicted behavioral confirmation effect in transference also occurred involving the gender of the significant other (and of the target). We systematically varied significant-other gender as a factor in the experiment, matched with the gender
of the target. The results showed that more positive affect was expressed by targets resembling perceivers' own female significant others rather than their own male significant others—regardless of the overall affect associated with the significant-other representation. The effect did not occur when targets did not resemble perceivers' own significant others and thus occurred only in the transference condition. This finding highlights the potential importance of gender in interpersonal behavior in transference, with women evoking a more positive transference. This effect occurred also for perceivers, who were judged as expressing more positive affect in their behavior when the target allegedly resembled their own female significant other rather than their own male significant other. Because target gender and significant-other gender were matched (and thus confounded) to reduce noise in the design, this potential limitation in generality must be acknowledged. In addition, because these effects were unpredicted and essentially correlational, any conclusions about transference and gender must remain speculative.

Gender stereotypes in North America tend to include expectations of greater emotional responsiveness in women than in men (for reviews, see Cross & Markus, 1993; Deaux & Major, 1987; Eagly, 1987). Hence, more positive interactions may be expected with female significant others and accordingly with female interaction partners the perceivers experience transference toward. Gender is clearly activated as an integral part of both social categories and individual-person exemplars (see Banaji & Greenwald, 1995; Blair & Banaji, 1996; Brewer & Lui, 1989; Macrae et al., 1998; Stangor, 1988; Zarate & Smith, 1990) and has been shown to be particularly well linked to significant-other representations (Karylowski et al., 2000). However, because the gender effect on behavior occurred only in transference, it cannot be explained solely in terms of the use of nonomothetic gender stereotypes or categories, which were held constant across condition.

This unpredicted gender effect may also be explained by the effect that occurs in the perceiver's relationship with the significant other. Research on gender differences in behavior using North American samples has shown that women tend to exhibit greater expressiveness and warmth in interpersonal interactions than do men (e.g., Andersen & Bem, 1981; Cross & Markus, 1993; Deaux & Major, 1987; Eagly, 1987; Ickes & Barnes, 1977). Hence, relationships with female significant others may include more mutual expression of positive affect than relationships with male significant others, regardless of the overall affective tone of these significant-other representations. This relational information should be stored with the significant-other representation and activated and used in transference.

Another way of thinking about this gender effect might be to consider that mothers are more often primary caregivers than fathers, and caregiving requires expression of interpersonal warmth and tenderness. Because primary caregivers are central in development (Maccoby & Martin, 1983), representations of female significant others may be likely to be associated with caregiving and hence with positive affect (Bowby, 1969; Greenberg & Mitchell, 1983; Thompson, 1998). Although of interest, this speculation cannot be tested here because only one quarter of the significant others freely listed in the present research were parents, suggesting that the transference effects observed were not based primarily on parental representations. In addition, our predicted behavioral confirmation effect held across relationship types (family members vs. nonfamily) and thus was not driven by a particular type of relationship with a significant other.  

Of note, this gender effect occurred in the behavior of both perceivers and targets. Hence, it appears to be based on targets' reciprocating perceivers' overt behavior, as is typically considered to be the mechanism underlying behavioral confirmation (Snyder, 1992). These data intriguingly suggest that multiple pathways to behavioral confirmation in transference may exist, not all of which.

10 The large loss of power that would occur in analyzing the data using more specific types of significant others precludes such analyses. It is true, however, that slightly more positively toned mothers (5%) than fathers (3%), and slightly more negatively toned fathers (13%) than mothers (3%) were listed by participants who were randomly included in the study, but this slight difference should not have influenced our findings. In the experiment, equal numbers of male and female targets were portrayed to resemble positively and negatively toned significant others, and each target was characterized by equal numbers of positive and negative descriptors, so the positivity displayed with female targets in transference occurred in spite of these controls. To assess the degree to which women versus men were listed as positive versus negative significant others, respectively, we also examined all significant others listed by participants at pretest—whether or not the participant later took part in the experimental session. Indeed, positive female significant others were listed somewhat more often than positive male significant others, although this difference was not significant. These calculations coincide with other findings showing that people report feeling more love or affection toward women versus men, with both men and women saying they love greater numbers of women than men (Meyers & Berscheid, 1997). However, negative female significant others were also listed somewhat more often than negative male significant others, although this was only marginally significant. In fact, more female than male significant others were listed overall, regardless of overall affect. The greater number of female significant others listed suggests the greater importance of female versus male significant others for this sample of female undergraduates, which is developmentally appropriate and which could conceivably account for the greater positivity they expressed in their behavior toward female targets in transference in this study. It is important to note, however, that we obtained no evidence in the experiment that the descriptors listed for representations of female versus male significant others as target descriptors were objectively more positive, as rated by independent judges. Indeed, a more complex finding emerged showing that judges rated the descriptors of positively toned versus negatively toned female significant others as more extremely positive or negative, respectively, than they did for male significant others who were positive versus negative. These data hint at the possibility that the overall affective tone of female significant-other representations may be more important, clear, and prominent than that of male significant-other representations. This could be due to more in-depth knowledge of and a closer emotional relationship with female significant others, however, all participants were instructed to list significant others whom they knew extremely well and had known for a long time, which suggests a high level of significance, even if not uniform. If in fact the female perceivers in the present study had closer relationships with their female significant others, this of course could underlie the observed gender effect. We did not include male perceivers in the study and thus cannot be sure that the effect would also hold for male perceivers, such that they also would express more positive affect in their behavior to female than male targets in transference. Consistent with other evidence that male–male dyads in North American samples are particularly unresponsive emotionally (e.g., Andersen & Bem, 1981; Ickes & Barnes, 1977), such a pattern might well occur, a question that warrants research attention. Of importance, because this gender effect did not emerge in our self-report indexes of transference, these data also highlight the importance of assessing behavior in transference to capture the full range of its effects.
involve analogous behavior by perceivers as a precipitator of targets' behavior (see Miller & Turnbull, 1986). This is of interest in part because significant-other representations are likely to be associated with a variety of affective experiences far more complex than the simple positive-negative distinction drawn here, which may make it more challenging to tap the locus of behavioral confirmation processes in transference.

Conclusion

In summary, the results show behavioral confirmation in transference, demonstrating that behaviors experienced with significant others re-emerge in encounters with new individuals—when significant-other representations are activated and used in relation to these new people. In this way, present relationships may come to resemble past ones. Prior work on transference has been criticized as lacking evidence that it occurs in real, social interactions. This research provides direct, empirical evidence that transference does in fact occur in overt behavior in interpersonal interactions, resulting in behavioral confirmation by targets of the overall affect associated with the perceiver's significant-other relationship. These data track the use of significant-other representations in interpersonal behavior and begin to bring social cognition into the relationship context through the process of transference. We believe that transference is thus fundamental to understanding the transmission of relationship knowledge within current interpersonal experience.

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Received March 4, 1999
Revision received December 13, 1999
Accepted May 1, 2000