



Reports

Let there be no mistake! On assessment mode and the transference effect in social perception

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ABSTRACT

We examined the possibility that assessment regulatory mode orientation affects the tendency to exhibit transference effects in social perception. Based on a social cognitive methodological paradigm devised by Andersen and colleagues [e.g., Andersen, Glassman, Chen, & Cole, 1996], we find that the transference effect is more pronounced when individuals' (chronic) assessment orientation is low (vs. high). These results suggest that transference is more likely to occur when less attention is directed towards the target of perception.

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When a perceiver encounters a novel person, she forms an impression of the person based on a host of available information. Research on person perception has generally found that individuals form impressions quickly and that these early impressions remain relatively stable over time (Kenny, 1994; Levesque & Kenny, 1993). A large body of research has now documented the ubiquity of primacy effects in impression formation (Anderson, 1965; Anderson & Hubert, 1963; Asch, 1946; Kruglanski & Freund, 1983). But how are these early impressions formed? The formation of relatively broad impressions of people derived from a very small sampling of information suggests that the perceiver is making use of stored knowledge structures to organize and give color to available information about newly encountered individuals.

Observable behaviors exhibited by the target represent one potential source of information on which to base impressions. Indeed, now classic social cognitive research suggests that the observation of behaviors can lead to spontaneous inferences about the traits that describe the target (Fielder & Schenck, 2001; Newman & Uleman, 1989; Uleman, Hon, Roman, & Moskowitz, 1996; Winter & Uleman, 1984). For example, after seeing a person assist an elderly person cross the street, the perceiver may make an inference that the person is kind, after seeing a person gamble away a large sum of money, the perceiver may infer that the person is impulsive, and after seeing a person scream at a colleague, the perceiver may infer that the person is short-tempered.

In addition to observable behaviors, the perceiver may examine the target's appearance for clues into his/her personality. Much research in the domain of stereotyping has found that inferences about a person's personality are made based on gender, race, ethnicity, and other social categories (e.g., Fiske, 1998; Hilton & von Hippel, 1996; Stangor & Lange, 1994). For example, the knowledge that a person is a woman may lead to the inference that she is nurturing, caring, and emotional, the knowledge that a person is a lawyer may lead to the inference that the person is conservative, deceptive, and hard-working, and the knowledge that a person is African-American may lead to inferences about the person's hostility, intellect, or athletic ability.

It seems, then, that encountering a novel person activates associated schemas consistent with the pattern of information perceived, including the mental representation of traits and stereotypes. Mental representations of significant others represent another important type of schema that is likely to be activated. For example, the inference that a person is kind, generous, and thoughtful may activate the mental representations of other individuals who share this pattern of traits. Specifically, the activation of significant other schemas (e.g., a mother, mentor, spouse, or close friend) may lead to the inference that the novel person shares additional traits in common with a previously known person, even when such behaviors or traits are not observed. Upon meeting a person who is kind, sociable, thoughtful, short, and brunette, the mental representation of one's own mother may be activated. Even though no behaviors related to the novel person's sense of humor are present, the perceiver may infer the novel person's sense of

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humor based on the sense of humor of their own mother. This notion has been investigated in a program of research by Susan Andersen and her colleagues on transference phenomena (e.g., Andersen & Berk, 1998; Andersen & Chen, 2002; Andersen & Cole, 1990).

The concept of transference was originally proposed in the context of psychoanalytic therapy (Freud, 1912; Sullivan, 1953) and referred to “the process by which a client in psychotherapy superimposes childhood fantasies and conflicts onto a therapist, embroiling the therapist in these conflicts” (Baum & Andersen, 1999, p. 163). Somewhat differently, Andersen and her colleagues have shown that the transference phenomenon occurs outside therapy sessions and may occur commonly in social situations. Anderson and colleagues have demonstrated that “people use significant-other representations [to make] representation-consistent inferences about him or her, that is misremembering him or her in terms of qualities that he or she does not have, but rather are part of the significant-other representation.” (Andersen & Berk, 1998, p. 82).

In Andersen’s research paradigm, participants are presented with information about a novel target person. Information is presented that is similar to one of the participant’s significant others (gleaned from earlier surveys) or is not similar to one of the participant’s significant others (gleaned from another participant’s survey). The participant later performs a recognition-memory test in which s/he rates his or her confidence that a given statement was actually included in the target person’s description. The degree of transference is assumed to be related to the preponderance of representation-consistent statements (not actually presented) that are falsely remembered as having been included in the target’s description. Research has consistently found that the rate of false positives is greater when the target resembles participants’ significant other than when s/he does not (e.g., Andersen, Glassman, Chen, & Cole, 1995).

The research by Andersen and colleagues makes a compelling case for the ubiquity of transference phenomena in everyday social relations. Recent research has begun to investigate motivational (Pierro & Kruglanski, 2008) and cognitive (Kruglanski & Pierro, 2008) moderators of transference phenomena. Specifically, it has been found that individuals high on the need for cognitive closure, who are motivated to form quick and firm impressions, are more likely to exhibit transference effects than individuals low on the need for cognitive closure (Pierro & Kruglanski, 2008). These results mirror findings from the domains of spontaneous trait inferences and stereotyping, in which a high need for closure (or structure) leads to greater use of such schemas (Dijksterhuis, van Knippenberg, Kruglanski, & Schaper, 1996; Kruglanski & Freund, 1983; Moskowitz, 1993). In addition, individuals who are cognitively fatigued because they are operating during a suboptimal period in their circadian rhythm are more likely to exhibit transference effects than individuals who are operating in their optimal circadian period (Kruglanski & Pierro, 2008). Again, this finding is consistent with what has been found in the domain of stereotyping (Bodenhausen, 1990).

Taken together, these two findings suggest that transference effects are most likely to occur when the perceiver allocates less attention to the perception of the target person. In essence, transference involves a cognitive shortcut whereby additional traits are inferred from available information without direct evidence for their presence. Such a shortcut is most likely to occur when the individual prefers to conserve resources (e.g., time, energy) or is unable to fully recognize the lack of evidence due to a lack of ability (e.g., due to cognitive capacity constraints).

One particularly important source of attention is the perceiver’s level of the assessment orientation (Higgins, Kruglanski, & Pierro, 2003; Kruglanski et al., 2000). According to regulatory mode the-

ory, assessment reflects the tendency for an individual to evaluate and critically analyze goals, states, means, the self, and others by comparing one thing to another. High levels of assessment result in greater effort invested in activities that afford comparisons, appraisals, and critical thinking. Assessors prefer to engage in activities that allow them to evaluate, measure, or interpret information (Taylor & Higgins, 2002). For example, individuals high (vs. low) on the assessment regulatory mode scrutinized a passage more carefully and found more errors in the passage during a proofreading task in which they were provided with a ‘master copy’ that was copy edited to be free of errors and a ‘sample copy’ that they were asked to correct to be consistent with the master copy (Kruglanski et al., 2000).

Assessment has been found to be associated with a sensitivity to social information and with the critical evaluation of the self and others (for a recent review, see Kruglanski, Orehek, Higgins, Pierro, & Shalev, *in press*). Consistent with the idea that individuals high (vs. low) on assessment are attentive to information in the social environment, they are more sensitive to criticism from others, making them more anxious in social interactions (Higgins et al., 2003) and leading them to conform to social norms to a greater extent (Pierro, Mannetti, Higgins, & Kruglanski, 2002). In addition, responses to the assessment scale are positively correlated with responses to scales of public and private self-consciousness ($r = .54$; $r = .50$), fear of invalidity ($r = .43$), the need to evaluate ($r = .38$), and the need for social comparison ($r = .39$) (Kruglanski et al., 2000).

Because assessors are concerned with the evaluation of information, they should be more likely to allocate attention to the impression formation process, thereby making them more likely to appreciate the differences between a novel person and their significant others, just as individuals high (vs. low) on assessment in the proofreading study (Kruglanski et al., 2000) were more likely to detect differences between a ‘master copy’ and a sample copy.’ In other words, they may be less likely to engage in transference because they are more sensitive to the social information that is available, detecting the evidence that is present and recognizing cases in which information directly relevant to a particular inference is absent.

In a general sense, the present research aims to extend research demonstrating that transference phenomena occur when an individual engages in less vigilant processing of the information available about a target person (Kruglanski & Pierro, 2008; Pierro & Kruglanski, 2008). This marks a significant departure from the Freud (1912) account, in which transference was assumed to be initiated through an intense drive, leading to a resource-demanding process. Our account suggests the opposite; specifically, we argue that transference occurs when less attention is paid to the perception process. This approach is consistent with previous social cognitive work on transference (e.g., Andersen & Berk, 1998; Andersen & Chen, 2002; Andersen & Cole, 1990), in which transference is thought to occur due to implicit assumptions made about a target person based simply on their similarity to a well known significant other. Importantly, this framework integrates the findings from motivational and cognitive ability accounts under a single explanatory variable of attention. In this sense, transference effects occur through the same mechanism as stereotypes and behavior-trait inferences. The extension of this line of research to the assessment regulatory mode is particularly important because it makes stronger the case that the attentional component of the need for closure and circadian rhythm variables was driving the effect in the previous studies. The assessment construct is particularly well suited for this test because it is directly related to the preference for information scrutiny and has been shown to lead to critical and comparative evaluation of social targets.

Method

Participants and design

Participants were 48 undergraduate students (36 female and 12 male, with a mean age of 19.63), who were currently enrolled in a Psychology course at The University of Rome, La Sapienza.

Following the procedure devised by Andersen and her colleagues (e.g., Andersen & Cole, 1990), the experiment proceeded in two phases for which participants received separate credits. During the first phase participants completed the Assessment regulatory mode orientation scale (Kruglanski et al., 2000). Then, participants completed a *feature listing task* in which they were asked to visualize and describe a past or current significant other. In the second phase, which occurred two weeks later, participants were involved in the *learning trial and recognition-memory task*. In this phase, participants were randomly assigned to a similar ($n = 24$) or nonsimilar ($n = 24$) other condition. In the similar condition, during the *learning trial* individuals were presented with information about a new individual akin to the person they described in phase one. In the nonsimilar condition, participants were presented with information about a new individual described by a randomly chosen yoked participant in phase one. Participants in both conditions were instructed to remember the information presented regarding this new target person, and their accuracy in doing so was afterward assessed via the *recognition-memory test*. As in prior research, the degree of transference was operationally defined in terms of the proportion of false positives, that is of statements falsely recognized as having been included in description of the target person that were consistent with participant's own representation of the significant other.

Procedure

First phase

Assessment regulatory mode orientation. The Italian version of Assessment Scale (Kruglanski et al., 2000) constitutes a 12-item self-report measure designed to tap individual differences in this tendency. Previous research has demonstrated the reliability and validity of the scale (Kruglanski et al., 2000). The scale has been found to be unidimensional, with Chronbach's alpha averaging .78 across 13 independent samples, and test-retest reliability over the course of 4–8 weeks averaging .77 in three independent samples. To complete the scale, respondents rate the extent to which they agree with self-descriptive statements reflecting assessment (e.g., "I spend a great deal of time taking inventory of my positive and negative characteristics"). Ratings are made on a six-point Likert type scale with the response alternatives anchored at the ends with 1 (*strongly disagree*) to 6 (*strongly agree*). We computed a composite score by summing across responses to each item. Mean assessment score was 3.52 ($SD = .68$). Consistent with previous samples, Chronbach's alpha for the current sample was .71.

Feature listing task. After completing the assessment scale, participants were asked to name, visualize, and describe a current or past significant other (i.e. a person "who is very important to them and has been for many years," Andersen & Cole, 1990). Specifically, they were asked to generate a list of 20 descriptor statements (beginning with the prompt, "Generally, NAME of PERSON _____", cf. Andersen & Baum, 1994) that uniquely characterize their significant other and distinguish him or her from other people. Participants then ranked the statements in order of importance as descriptors of that person. After the ranking task, individuals were asked to select 12 traits that were neutral or irrelevant to the person they visualized (in which neutral is said to imply neither a positive nor a negative valence). These traits were used in part two as filler items along with the target descriptors.

Participants were then thanked for their participation and asked to sign up for an "unrelated" study.

Second phase

Learning trial and recognition-memory task. Participants who agreed to take part in the seemingly unrelated study were entered into the second phase of our research that took place two weeks after the first phase. Upon arrival at the laboratory, participants were randomly assigned to a similar or nonsimilar condition. In both conditions participants were told that they would interact with another person. Further, they were advised that they would perform a task with that person and that their interaction would be observed. Participants were informed that we were interested in the effect of the perceiver having information about a new person before the actual meeting and they were given three minutes to study the information given.

The new individual was either described using 8 idiographic significant other descriptors (those listed and ranked 4–11 in phase one; those ranked 1–3 and 12–16 were later used to measure transference of significant other characteristics) and six filler descriptors from the neutral list generated in phase one (similar condition) or descriptors from another participant randomly selected without replacement (*nonsimilar* condition). In general, most descriptors used to establish similarity involved behavioral mannerisms, personality characteristics and social labels.

A recognition-memory task was then completed to assess whether the information that was descriptive of the participant's significant other yet not explicitly given in description of the new target person biased participants' memory to be falsely recognized as having been included in that description. To investigate this possibility, after viewing all descriptors and following a brief pause, participants were given the *recognition-memory test*. This test consisted of 15 randomly ordered descriptor sentences. Participants were told to indicate to what extent they thought that each of these sentences was taken from the previous list they in which terms the target person was described during the *learning trial* phase. Each descriptor sentence was evaluated on a scale ranging from 1 (*I am confident that this descriptor was not presented*) to 4 (*I am confident that this descriptor was presented*).

Following the procedures of previous transference research, four of the sentences presented had actually been presented to the participant (two significant other descriptors and two filler items). Eight of the 11 remaining descriptors were representation consistent (as indicated by the descriptor list of their significant other characteristics generated by participants in phase one), but had not been actually presented in the description of the target person). These descriptors were the significant other descriptors ranked 1–3 and 12–16. The eight representation-consistent descriptors were used as the crucial indicator to determine whether transference occurred and individuals went beyond the information actually given about the new individual. Three descriptor items from the nonrelevant list were also included as filler items.

Following the methodology of prior studies in this domain, we computed the false alarm rate, a measure of recognition memory, as an indicator of transference. In this paradigm, the false alarm rate is the likelihood of erroneously recognizing the similar (but not presented) descriptors. In others worlds, a false alarm is defined as a yes response to a new (i.e. not previously presented) item. Accordingly, we computed the false alarm rate averaging participant's recognition-confidence rating across the eight representation-consistent but not presented descriptors. The false alarm rate, or false-positive memory, is the primary indicator of transference of the old mental representation to the new person (Andersen & Cole, 1990). Higher scores of this index operationally define greater degrees of transference.

Manipulation check. After the memory test, participants completed an item assessing how similar the individual in phase two seemed to the significant other they described in phase one. Participants responded on nine-point scale ranging from 1 (*Not at all similar*) to 9 (*Completely similar*). This completed the experiment. Participants were thanked and fully debriefed.

Results

Manipulation check

Results of a one-way ANOVA performed on participants' rating of the similarity of the new target person to the own significant other yielded a significant effect of the similarity condition, $F(1, 46) = 9.88, p < .005$, with more resemblance perceived in the similar condition ($M = 5.13$) than in the nonsimilar condition ($M = 3.88$), indicating that our similarity manipulation was successful.

Transference as a function of similarity and assessment orientation

The predictions regarding the effect on transference of interaction between similarity condition (similar vs. nonsimilar) and assessment were tested by means of a moderated multiple regression analysis (using the product variable approach suggested by Baron and Kenny (1986)). In this analysis, we entered the main effects of similarity condition (dummy coded: $-1 =$ nonsimilar; $1 =$ similar) and assessment orientation, as well as the interaction between these two variables. Following Aiken and West's (1991) recommendation, the assessment orientation was centered (i.e. by subtracting the mean from the score), and the interaction term was based on this centered score.

Our analysis yielded a significant and positive main effect of similarity on the false alarm rate ($\beta = .40, t = 2.997, p < .005$), attesting to greater transference in the similar condition than in the nonsimilar condition, consistent with previous transference studies. Of greater importance, the hypothesized two-way interaction between similarity condition and assessment was significant and negative ($\beta = -.28, t = -.2090, p < .05$), suggesting that, as predicted, the relation between false alarm rate (i.e. the transference index) and similarity condition was maximized for low assessment participants. These findings are illustrated via the predicted mean values showed in Fig. 1. Following Aiken and West's (1991) suggestion these were values one standard deviation above and below the means of the relevant variables in the regression equation. The main effect of assessment ($\beta = .08, n.s.$) was not significant.

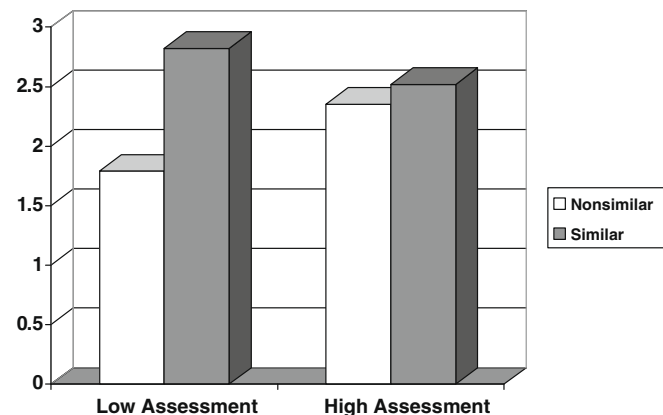


Fig. 1. Transference (false alarm) as a function of similarity and assessment orientation.

To further probe the nature of the interaction effect between assessment and similarity, we performed a simple slopes analysis, in accordance with Aiken and West's recommendation (1991). This analysis revealed that the relationship between similarity condition and false alarm rate within each of the two level of participants assessment (low = 1 SD below and high = 1 SD above the mean) was significant for participants relatively low in assessment ($\beta = .68, t = 3.63, p < .001$) whereas this relationship was nonsignificant for participants relatively high in assessment ($\beta = .12, t = .597, n.s.$).

Andersen and Cole (1990) found that false alarm rates varied as a function of the descriptors' prototypicality. We, therefore, proceeded to inquire whether prototypicality mattered in the present study as well. This was done first by classifying category-descriptive recognition-test items as highly prototypical (ranks 1–3) or moderately prototypical (ranks 12–16) and by including this factor in a 2 (similarity) \times 2 (prototypicality) ANOVA. The analysis confirmed the significant main effect of similarity, $F(1, 46) = 10.51, p < .005$. In addition, the analysis yielded a significant main effect of prototypicality, $F(1, 46) = 4.09, p < .05$, with the false-positive error being more pronounced for highly prototypical ($M = 2.54$) than for moderately prototypical features ($M = 2.33$), confirming Andersen and Cole's (1990) results. The analysis also yielded a significant two-way interaction of prototypicality and similarity condition $F(1, 46) = 10.05, p < .005$ with the difference in false alarm rates between these conditions being more pronounced for highly prototypical features ($M_{similar} = 3.02, M_{nonsimilar} = 2.04$) than for moderately prototypical features ($M_{similar} = 2.50, M_{nonsimilar} = 2.16$).

Subsequently, we carried out two moderated multiple regression analyzes: one for the prototypical and one for the moderately prototypical indicators. As in our prior analysis, here too we entered the main effects of similarity condition and assessment orientation, as well as the interaction between similarity and assessment orientation. The results yielded: (1) a significant main effect of similarity only on the prototypical indicators ($\beta = .54, t = 4.676, p < .001$); and (2) a significant two-way interaction between assessment and similarity only on the prototypical indicators ($\beta = -.37, t = -.3.189, p < .01$). The main effect of assessment ($\beta = .06, n.s.$) was not significant for prototypical indicators. Finally, neither the two main effects of similarity condition and assessment ($\beta = .23, n.s.; \beta = .09, n.s.$, respectively) nor the interaction effect between assessment and similarity ($\beta = -.17, n.s.$) were significant for the moderately prototypical indicators.

In summary then, the results with respect to prototypicality (1) replicate the findings of Anderson and Cole (1990) and (2) the effect of assessment on transference was present only for prototypical representation-consistent descriptors.

Discussion

The present research sought to build on the social cognitive understanding of transference. Specifically, we tested the hypothesis that the regulatory mode of assessment would moderate the transference effect. In this study, individuals low on the regulatory mode of assessment were more likely to exhibit transference effects than individuals high on the assessment. Because high assessors are oriented towards the evaluation of others, they attend to social information to a greater extent than low assessors (Higgins et al., 2003; Kruglanski et al., 2000, in press).

The results of this study underscore the conceptual point that transference effects are most likely to occur when less attention is allocated to the impression formation process (Kruglanski & Pierro, 2008; Pierro & Kruglanski, 2008) and run counter to the claims of the psychoanalytic perspective of transference proposed by Freud (1912). Rather than occurring as motivationally driven consequence of intrapsychic turmoil, transference occurred simply

when the perceiver was less vigilant in information processing. That is, the lack of attention paid to the information given about the new person led to judgments that were not directly supported by the available evidence. This suggests that transference occurs when schema-based inferences are used to make assumptions about a person, as is done in spontaneous trait inferences and stereotyping. One limitation of the present research was that the attention directed to the target of perception on the part of the perceiver was not directly measured. A potentially fruitful direction for future research could be to measure attention using methods such as eye tracking.

Similarly, the present research was not able to determine whether individuals high on assessment became aware of the discrepancies between their significant other and the target person. Transference effects in the social cognitive literature have occurred implicitly, without conscious inferences linking the significant other to the target. Although we have argued that individuals high on assessment allocate more attention to the target of perception and are therefore more likely to detect differences between the target person and their significant others, we do not mean to suggest that these comparisons reach the threshold of conscious awareness. Indeed, it seems unlikely that participants, when encountering a target person, would consciously think of all the ways in which the target person is different from their significant other. Future research could profitably explore both (a) the extent to which assessment occurs unconsciously and (b) the extent to which consciousness influences transference phenomena.

The finding that transference effects are more likely for prototypical than for nonprototypical descriptors replicates findings from previous research on transference (Anderson & Cole, 1990). Importantly, we found that the effect of assessment on transference occurred only for prototypical (but not nonprototypical) descriptors. This suggests that individuals low on assessment are exhibiting the same types of judgments as were participants in previous studies, while individuals high on assessment are not exhibiting these patterns of judgment.

The finding that assessment is associated with transference highlights a trade-off with respect to the assessment orientation. Individuals high on assessment are often harsh critics who find fault in others because of their constant evaluation (Kruglanski et al., in press). However, it seems that the assessment mode orientated toward the evaluation of others can lead to a more accurate impression of the target, based on fewer assumptions. Future research is needed to explore the relation between assessment and other forms of social perception, such as stereotyping and spontaneous trait inferences.

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