Reports

Seeing others through rose-colored glasses: An affiliation goal and positivity bias in implicit trait impressions ☆

SoYon Rim [a],[*],[1], Kate E. Min [b],[1], James S. Uleman [c], Tanya L. Chartrand [d], Donal E. Carlston [e]

[a] Harvard Kennedy School, Harvard University, USA
[b] Whitman School of Management, Syracuse University, USA
[c] Department of Psychology, New York University, USA
[d] Fuqua School of Business, Duke University, USA
[e] Department of Psychology, Purdue University, USA

HIGHLIGHTS

- We tested the effect of an affiliation goal on spontaneous trait inference (STI).
- We found a positivity bias in STIs in response to an affiliation goal.
- Those with the goal formed more positive (vs. negative) STIs compared to controls.
- This positivity bias persisted when the goal was unfulfilled versus fulfilled.
- We conclude that STIs form flexibly in response to perceivers' social goals.

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ABSTRACT

People infer traits from other people's behaviors without intention, awareness, or effort, and this spontaneous trait inference (STI) effect has been shown to be robust. The purpose of the present research was to demonstrate the flexibility of STIs despite the ubiquity. Specifically, we examined the effect of an affiliation goal on STI formation and found a positivity bias. In Experiment 1, perceivers with an affiliation goal formed more positive (versus negative) spontaneous trait inferences compared to those without this goal and those who had been primed with semantically positive, affiliation-unrelated words. Experiment 2 provided evidence that this effect was driven by a motivational state by showing that the positivity bias occurs only when a perceiver's goal to affiliate remains unfulfilled. The goal's interaction with trait valence showed focused, goal-relevant bias. These studies are the first to show that STIs form flexibly in response to perceivers' primed social goals supporting the functionality account of STIs in implicit impression formation.

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Introduction

Impressions of others can form implicitly, without intention, and without explicit memory for past encounters with those others (see Uleman, Blader, & Todorov, 2005 for a review). Consider the following situation: you go to the supermarket and encounter various people. An employee walks a customer to the aisle where the item she is looking for is located. You pass a man who spills coffee on his shirt. A woman at the check-out line runs to get a forgotten item just as the cashier begins to ring her up, while the person in line behind her waits without

saying a word. What are your impressions of these various individuals? You will most likely think that they are "helpful," "clumsy," "inconsiderate," and "patient," respectively. These spontaneous trait inferences (STIs; Winter, Uleman, & Cunniff, 1985) occur routinely and robustly, from minimal behavioral information (see Skowronski, Carlston, & Hartnett, 2008; Uleman, Saribay, & Gonzalez, 2008 for reviews).

The purpose of the present research is to demonstrate that, their documented ubiquity notwithstanding, STIs are flexibly formed in response to perceiver's social goals. In the above example, imagine that before walking into the supermarket, you heard someone on the radio promote a book on building meaningful friendships. How might this influence your subsequent impressions? We predicted that an affiliation goal, even one that is nonconscious (i.e., in the sense that one is unaware of having this goal), would lead to greater positive (helpful, patient) versus negative (clumsy, inconsiderate) STIs. This research builds on prior work on the situational flexibility of STIs (e.g., Crawford, McCarthy, Kjaerstad, & Skowronski, 2013; Rim,

Uleman, & Trope, 2009) and also critically extends it by showing that STIs can be modulated depending on a perceiver's currently activated social goals.

Spontaneous trait inferences

Spontaneous trait inferences are inferences that people form upon reading about (e.g., Carlston & Skowronski, 1994; Todorov & Uleman, 2002) or observing (Fiedler & Schenck, 2001; Fiedler, Schenck, Watling, & Menges, 2005) other people's trait-implying behaviors. STIs form in the absence of any explicit task instructions to form impressions and without perceivers' explicit awareness of having formed any inferences. STI effects are robust, occurring rapidly, and under concurrent cognitive load (Todorov & Uleman, 2003; Winter et al., 1985; but see Wells, Skowronski, Crawford, Scherer, & Carlston, 2011 for evidence that cognitive load sometimes affects STIs).

The apparent ubiquity and robustness of STIs makes it unclear whether they are sensitive to temporarily activated social motivations of the perceiver. Uleman (1999) speculated that "spontaneous impressions are guided more by chronically accessible constructs, while intentional impressions are guided more by temporarily activated goal-relevant constructs and procedures" (p. 146). Consistent with this suggestion, STIs have been shown to be sensitive to chronically activated constructs (e.g., Newman, 1991; Zárate, Uleman, & Voils, 2001; Zelli, Cervone, & Huesmann, 1996; Zelli, Huesmann, & Cervone, 1995) such as personal need for structure (Moskowitz, 1993). And although past research has shown that STIs are affected by task instructions that alter information processing (Crawford, Skowronski, Stiff, & Sherer, 2007; Uleman & Moskowitz, 1994), these manipulations do not speak to the issue of situationally activated social goals.

Evidence for situational flexibility

Previous research supports the flexibility and functionality account of STI formation. For example, STIs can be modulated depending on their predictive utility for the perceiver. From the same behavioral information, participants formed STIs to a greater extent about actors who were from the distant (vs. near) past, or located in a remote (vs. proximal) place (Rim et al., 2009). Rim et al. (2009) postulated that STIs are more functional in thinking about distant actors because abstract traits are more stable and invariant across situations while the specifics of the immediate situation (e.g., exact behaviors) may not always hold for those individuals. More recently, Crawford et al. (2013) found that STIs are generated in a way that matches a perceiver's somatic state. For example, positive STIs decreased when participants were oriented toward avoidance, and negative STIs decreased when participants were oriented toward approach. The present research provides converging evidence for the functional utility of STIs and, importantly, extends past work by demonstrating biased STI formation within a motivational context. To our knowledge, these studies are the first to demonstrate the influence of situationally activated *social goals* on STI formation.

We were particularly interested in affiliation goals because people are fundamentally social and the need to belong is a critical and pervasive human motivation (see Baumeister & Leary, 1995; Maslow, 1968). Specifically, we propose that when the goal to affiliate with others is activated, the perceiver will form more positive, relative to negative, STIs from others' behaviors. This prediction is supported by research indicating that perceivers evaluate a potential dating partner more positively compared to someone they do not expect to date (Goodwin, Fiske, Rosen, & Rosenthal, 2002; see also Berscheid, Graziano, Monson, & Dermer, 1976; Clark & Wegener, 2008). And insofar as an affiliation goal can be thought of as activating a general approach orientation, Crawford et al.'s (2013) findings would similarly predict such a valence effect. However, our prediction is that implicit

impressions may be functional in context-specific ways. We argue that this implicit bias (i.e., the goal's effect of selectively binding an unrepresentative sample of trait concepts to the actor representation) serves the perceiver's goal of affiliating with the target because positive impressions should facilitate smooth interaction and liking.

Experiment 1

Experiment 1 tested the effect of an affiliation goal[2] on positive and negative spontaneous trait inference formation. Participants were in an affiliation goal, no goal, or positive-semantic prime condition. The positive-semantic prime condition was included to rule out the possibility that the affiliation goal prime simply primed positive feelings, and not the goal itself, and the possibility that it activated the positivity of the goal and not its motivational properties. Participants completed the false recognition task, which is used to examine spontaneous trait inference (Todorov & Uleman, 2002). The essence of this method is that participants who infer a trait from a sentence are more likely to erroneously remember that trait as having been explicitly mentioned in the sentence. We hypothesized that an affiliation goal prime would lead to greater formation of positive than negative STIs, relative to the no goal prime and the positive-semantic prime conditions.

Method

Participants

One hundred and twelve undergraduate students (47 males, $M_{age} = 20.68$, $SD_{age} = 2.05$) at Duke University participated in the experiment for monetary compensation. Participants were randomly assigned to one of six between-subjects conditions.

Procedure

Upon arrival, participants were told that they would complete two separate experiments. Participants first completed a word search task, which was actually a supraliminal priming task, and were randomly assigned to one of three priming conditions: affiliation goal, positive-semantic, or no goal. In all conditions, participants then completed a linguistic processing task, which was actually the false recognition task to detect STI formation.

The priming task. Participants completed a word-search puzzle packet containing one 9×9 matrix and five 6×6 matrices of letters. All three of the priming conditions contained the same set of three neutral words in each of the matrices (eagles, calendar, plant) and the remaining six words were either relevant to affiliation (e.g., companion), were positive and unrelated to affiliation (e.g., butterfly), or were additional neutral words (e.g., table).

The false recognition task. The false recognition paradigm for detecting STIs consists of two phases. In the study phase, participants were presented, in random order, with 36 trait-implying sentences[3] (Uleman, 1988) paired with photographs of actors (half female, half male) exhibiting neutral expressions. Eighteen sentences implied positive traits and 18 sentences implied negative traits about the actor. All 36 sentences had an overall pretest consensus of 50% or greater regarding the trait best exemplified by each (Uleman, 1988). These traits were used as probes in the second part of the task. On

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[2] We primed an affiliation goal nonconsciously to prevent demand characteristics arising from participants' awareness of the goal. Because we were interested in implicit impressions, we avoided using such methods as anticipated interaction, which could produce an explicit impression formation goal. The implicit affiliation goal did not, therefore, reference any particular target.

[3] We chose affiliation-unrelated behavioral sentences to guard against the alternative hypothesis that any effect of an affiliation goal was a semantic priming effect rather than a goal effect.

12 of the trials, the sentences contained the trait implied by the be-
havior, and these served as filler sentences. On the remaining 24 tri-
als, the sentences implied the traits, but did not explicitly mention
them. The duration of each trial was 8 s, and the inter-trial delay
was 2 s. After every 6 trials, during the inter-trial delay, participants
were asked to stop and complete one of the five 6 × 6 letter matrices,
similar to the 9 × 9 matrix completed at the very start of the experi-
ment. This was designed to keep the prime (affiliation goal, no goal,
or positive-semantic) activated in participants' minds.

The test phase consisted of 36 trials on which participants saw
photos from the study phase paired with trait words. The trait word
was below the photo, and the next trial immediately followed partici-
pants' response. On 12 of the trials, photos presented with filler
sentences during the study phase were correctly paired with traits
that had been in the sentences earlier (filler trials). Another 12 trials
consisted of photos systematically paired with traits that were implied
about those people, though not actually mentioned (experimental
trials), and the remaining 12 consisted of photos randomly and incor-
rectly paired with traits that were implied about a different person
(control trials). There were two counterbalanced sets such that a
photo correctly paired with a trait in one set was incorrectly paired
with a trait in the other set. This ensured that any effects would not
be due to a particular photo or trait word pairing. On each trial, the
participant's task was to decide whether the word had actually been
included in the sentence about this person during the first part of the
experiment. Participants completed 8 practice trials with feedback be-
fore completing the actual trials.

Suspiciousness measure. Following the final block of trials, participants
completed a funnel debriefing that probed for awareness or suspicion
regarding the priming manipulation. No participant reported any
awareness or suspicion 1) of a connection between the different
tasks of the experiment, 2) that completing one task might have
affected responses on another, or 3) that they had ever seen or com-
pleted a word search task for another experiment.

Results and discussion

Preliminary analyses

For each participant, the proportion of trials on which implied traits
were falsely recognized was calculated for both the experimental and
control trials. For filler trials, the proportion of correct recognition
was calculated. Correct recognition of traits on filler trials was .68
(SD = .17). This significantly exceeded chance level of .50, $t(111)$ =
11.09, $p < .001$, $d = 1.05$. False recognition of traits on experimental
trials where traits and photos were correctly paired ($M = .32$, $SD =$
.25) was greater than on control trials where traits were randomly
paired ($M = .15$, $SD = .14$), $t(111) = 8.89$, $p < .001$, $d = .84$. This
provides evidence of STIs (Todorov & Uleman, 2002).

Effect of an affiliation goal on positive and negative trait inferences

For ease of interpretation and clarity, two summary false recogni-
tion scores were computed for each participant by subtracting the
rate of false recognition on positive and negative control trials from
the rate of false recognition on positive and negative experimental tri-
als, respectively. These false recognition difference scores, reflecting
the magnitude of positive and negative STI formation, served as depen-
dent variables in the analysis (e.g., Crawford et al., 2013; Rim et al.,
2009). We performed a 3 (Prime: affiliation goal vs. positive-
semantic vs. no goal) × 2 (Counterbalancing Set) × 2 (STI Valence:
positive and negative) mixed-model ANOVA, with the first two factors
between-Ss and the last factor within-Ss. The counterbalancing factor
did not interact with any of the variables ($Fs < 1$) so we excluded it
from subsequent analyses. As predicted, we found that an affiliation
goal produced more of a positivity bias than either no goal or positive
semantic priming (see Fig. 1), producing the expected Prime × STI
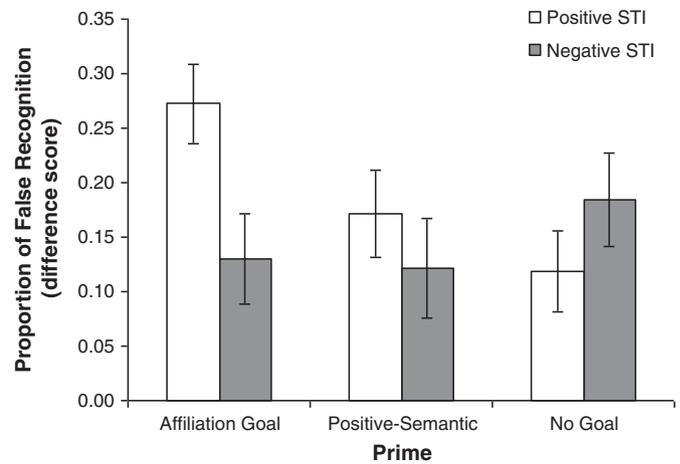

Fig. 1. Positive and negative STI formation (false recognition difference score) as a
function of prime (Experiment 1).

Valence interaction, $F(2, 109) = 4.92$, $p = .009$, $\eta_p^2 = .083$.[4] The main
effect of valence was not significant, $F(1, 109) = 2.29$, $p = .13$, and
neither was the main effect of goal prime, $F < 1$, thereby demonstrating
that the goal to affiliate did not affect overall STI formation.

Pairwise comparisons revealed that positive STIs were significantly
greater than negative STIs only in the affiliation goal condition
($M_{pos} = .27$, $SD_{pos} = .27$; $M_{neg} = .13$, $SD_{neg} = .26$), $F(1, 109) = 9.55$,
$p = .003$, $\eta_p^2 = .081$, and not in the no goal ($M_{pos} = .12$, $SD_{pos} = .22$;
$M_{neg} = .18$, $SD_{neg} = .26$), $F(1, 109) = 1.89$, $p = .17$, or positive-
semantic prime ($M_{pos} = .17$, $SD_{pos} = .20$; $M_{neg} = .12$, $SD_{neg} = .27$),
$F < 1$, conditions. Positive STI formation was greater in the affiliation
goal prime condition than in the no goal prime condition, $F(1, 109) =$
8.65, $p = .004$, $\eta_p^2 = .074$, and marginally greater than in the
positive-semantic prime condition, $F(1, 109) = 3.43$, $p = .066$, $\eta_p^2 =$
.031, while it was comparable in the latter two conditions ($F < 1$).
Negative STI formation was unaffected by prime type, all $Fs < 1$.

Participants with the goal to affiliate spontaneously formed more
positive than negative trait inferences. This valence effect was signifi-
cant only in the affiliation goal condition, thus showing a goal-driven
positivity bias in implicit impression formation. Notably, the positive-
semantic prime did not have the same effect as an affiliation goal
prime. Thus we conclude that the goal to affiliate with others leads to
a positivity bias in STIs, serving an interpersonal function, whereas
general priming of positive concepts does not.

Experiment 2

In Experiment 2, we sought to demonstrate that the effect of an
affiliation goal on STI formation is indeed a goal-driven effect. One

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[4] A 3 (Prime) × 2 (Valence) × 2 (Trial Type) mixed-model ANOVA yields the same
results, statistically, as an ANOVA on difference scores. However, we wanted to ensure
that the effect of goal prime on STI formation was due to differential false recognition
on experimental trials. A 2-way mixed-model ANOVA on false recognition of positive
and negative traits on experimental trials yielded a significant Prime × Valence interac-
tion, $F(2, 109) = 3.19$, $p = .045$, $\eta_p^2 = .055$. Positive STI formation was greater than neg-
ative in the affiliation condition, $F(1, 109) = 24.11$, $p < .001$, $\eta_p^2 = .18$, and not in the no
goal, $F(1, 109) = 2.63$, $p = .11$, and positive-semantic, $F(1, 109) = 2.62$, $p = .11$, prime
conditions. False recognition on positive, experimental trials was marginally greater in
the affiliation goal condition than in the no goal, $F(1, 109) = 3.35$, $p = .069$, and
positive-semantic, $F(1, 109) = 3.70$, $p = .056$, prime conditions. Pairwise comparisons
by prime on negative experimental trials did not differ ($Fs < 1$). A 2-way mixed-model
ANOVA on false recognition of positive and negative traits on control trials also yielded
a significant Prime × Valence interaction, $F(2, 109) = 3.39$, $p = .037$, $\eta_p^2 = .059$. Unex-
pectedly, participants were more likely to falsely recognize positive than negative control
traits in the neutral prime condition, $F(1, 109) = 16.02$, $p < .001$, $\eta_p^2 = .13$. False recog-
nition of positive versus negative control traits did not differ in the affiliation and
positive-semantic conditions ($ps > .23$). Pairwise comparisons by prime showed no sig-
nificant differences (all $ps > .15$).

of the defining characteristics of goals is that their satiation deactivates them (Dijksterhuis & Aarts, 2010). We primed participants using the same procedure as in Experiment 1, but without the positive-semantic prime condition. Then participants had an experience that either satiated or thwarted their affiliation goal (if one existed) via a ball-tossing game with fellow students. Subsequently, they completed the false recognition task. If the affiliation goal prime actually primes a motivational state, its effects should persist while the goal remains unsatiated or thwarted (Dijksterhuis & Aarts, 2010; Förster & Liberman, 2007) but should decrease once the goal has been fulfilled (Atkinson & Birch, 1970; Chartrand, Huber, Shiv, & Tanner, 2008). Thus, we predicted that when the goal to affiliate was activated and then satiated, participants would not show a positivity bias in STI formation. On the other hand, when the goal was thwarted and remained unfulfilled, the goal should persist and result in the positivity bias demonstrated in Experiment 1.

Method

Participants

One hundred and five students (43 male, 2 unreported gender, $M_{age} = 21.62$, $SD_{age} = 4.03$) at Duke University participated in the experiment for monetary compensation. Participants were randomly assigned to one of eight between-subjects conditions.

Procedure

Upon arrival, participants were told that that they would complete three separate experiments. In the first experiment, participants were initially primed (or not) with an affiliation goal using the same 9×9 word search task as in Experiment 1. Participants were then told that the second experiment would examine mental visualization using a ball-tossing game, in which performance was unimportant. This involved the Cyberball game (Williams, Cheung, & Choi, 2000) allegedly with three other students. In actuality, participants were playing with a preset computer program. In this animated online game, participants throw a ball to another player by clicking on an icon. The game was set for 40 throws and lasted approximately 6 min. Participants were randomly assigned to a game condition that led them to experience either social exclusion or social inclusion. In the exclusion condition, participants only received the ball 4 times towards the beginning of the game. In the inclusion condition, participants received the ball for roughly half of the total throws. We posited that participants in the exclusion condition have their implicit affiliation goal thwarted, whereas those in the inclusion condition have this goal satisfied. Finally, participants completed the STI false recognition task followed by a funnel debriefing questionnaire as in Experiment 1. No participant reported any awareness or suspicion on the questionnaire.

Results and discussion

Pretest: manipulation check

We wanted to ensure that our Cyberball goal manipulation had the desired effects without making inquiries to our participants that would cue them to our hypotheses. Consequently, we elected to assess the characteristics of our task using a separate group of students at the same university who completed the Cyberball task only. These pre-test participants ($N = 32$, 14 male, $M_{age} = 20.84$, $SD_{age} = 5.40$; one unreported age) were randomly assigned to the exclusion or inclusion condition. Excluded participants correctly perceived that they received the ball less often ($M = 3.13$, $SD = 1.13$) than included participants ($M = 9.65$, $SD = 5.87$), $F(1, 30) = 17.81$, $p < .001$, $\eta_p^2 = .37$. Furthermore, excluded participants felt less noticed and included ($M = 2.33$, $SD = .82$) than included participants ($M = 6.00$, $SD = 2.42$), $F(1, 30) = 31.10$, $p < .001$, $\eta_p^2 = .51$, and more ignored and excluded ($M = 7.53$, $SD = 1.41$) than included participants ($M = 3.18$, $SD = 2.13$), $F(1, 30) = 45.29$, $p < .001$, $\eta_p^2 = .61$. We

measured liking and sense of belonging using 5 items (e.g., How close did you feel to the other people you were playing with?; Cronbach's alpha = .95). Included participants ($M = 4.53$, $SD = 1.68$) scored higher on this measure than excluded participants ($M = 2.23$, $SD = .90$), $F(1, 30) = 22.51$, $p < .001$, $\eta_p^2 = .43$. Finally, consistent with past literature (e.g., Zhou, Vohs, & Baumeister, 2009), Cyberball condition had no effect on positive and negative affect measured using the Positive and Negative Affect Schedule scale (PANAS; Watson, Clark, & Tellegen, 1988), $Fs < 2.67$, $ps > .11$.

Preliminary analyses

As in Experiment 1, false recognition scores were calculated for experimental and control trials. A correct recognition score was calculated from filler trials. Correct recognition on filler trials was .71 ($SD = .18$), exceeding chance level, $t(95) = 11.20$, $p < .001$, $d = 1.17$. False recognition on experimental trials ($M = .42$, $SD = .28$) was greater than on control trials ($M = .14$, $SD = .14$), $t(95) = 10.67$, $p < .001$, $d = 1.09$, demonstrating STI formation.

Effect of an affiliation goal and goal-fulfillment on positive and negative trait inferences

Analyses were conducted on positive and negative false recognition difference scores as in Experiment 1. We ran a 2 (Prime: affiliation goal vs. no goal) × 2 (Goal-Fulfillment: fulfilled vs. unfulfilled) × 2 (Counterbalancing Set) × 2 (STI Valence: positive and negative) mixed-model ANOVA with the first three factors between-Ss and the last factor within-Ss. The counterbalancing factor had no significant main or interactive effects so we excluded it from the following analyses. As predicted, there was a significant Prime × Goal-Fulfillment × STI Valence 3-way interaction, $F(1, 92) = 3.94$, $p = .050$, $\eta_p^2 = .041$ (see Fig. 2).[5] There was also a marginally significant valence main effect with positive STIs ($M = .30$, $SD = .30$) greater than negative STIs ($M = .25$, $SD = .30$), $F(1, 92) = 3.67$, $p = .059$, $\eta_p^2 = .38$. Additionally, there was a significant Goal-Fulfillment × Valence interaction, $F(1, 92) = 5.44$, $p = .022$, $\eta_p^2 = .056$. No other effects were significant ($Fs < 2$, $ps > .18$). There was no main effect of goal prime on the overall rate of STI formation, $F < 1$, supporting our argument for a positivity bias rather than a general effect of an affiliation goal on trait inferences.

We explored the significant 3-way interaction by conducting two 2 (Goal-Fulfillment: fulfilled vs. unfulfilled) × 2 (STI Valence: positive and negative) mixed-model ANOVAs for the affiliation goal and no goal prime conditions separately. As expected, there was a significant Goal-Fulfillment × STI Valence interaction in the affiliation goal condition, $F(1, 92) = 8.84$, $p = .004$, $\eta_p^2 = .088$. Pairwise comparisons showed that positive STI formation was greater than negative STI formation in the goal-unfulfilled condition, $F(1, 92) = 5.02$, $p = .028$, $\eta_p^2 = .052$; The opposite pattern emerged in the goal-fulfilled condition where negative STI formation was marginally greater than positive STI formation, $F(1, 92) = 3.86$, $p = .053$, $\eta_p^2 = .040$. The positivity bias in STI formation persisted when the goal to affiliate was primed and

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[5] A 3-way mixed-model ANOVA on false recognition of positive and negative traits on experimental trials yielded a significant Prime × Goal-Fulfillment × Valence interaction, $F(1, 92) = 4.72$, $p = .032$, $\eta_p^2 = .049$. No other effects were significant (all $Fs < 2$, $ps > .16$). We explored this further by conducting two 2-way ANOVAs for each goal condition separately. As expected, the Goal-Fulfillment × Valence interaction was significant in the affiliation goal condition, $F(1, 92) = 6.13$, $p = .017$, $\eta_p^2 = .12$, but not in the no goal condition, $F < 1$. Pairwise comparisons show that participants who were primed with an affiliation goal and then excluded in Cyberball falsely recognized positive traits more than negative traits, $F(1, 92) = 18.59$, $p < .001$, $\eta_p^2 = .17$. Participants primed with affiliation and then included in Cyberball falsely recognized positive and negative traits to a comparable extent, $F(1, 92) = 1.38$, $p = .24$. A 2-way mixed-model ANOVA on false recognition of positive and negative traits on control trials yielded a valence main effect, $F(1, 92) = 22.42$, $p < .001$, $\eta_p^2 = .20$, where positive control traits were falsely recognized more than negative control traits. No other effects were significant (all $Fs < 2.8$, $ps > .1$).
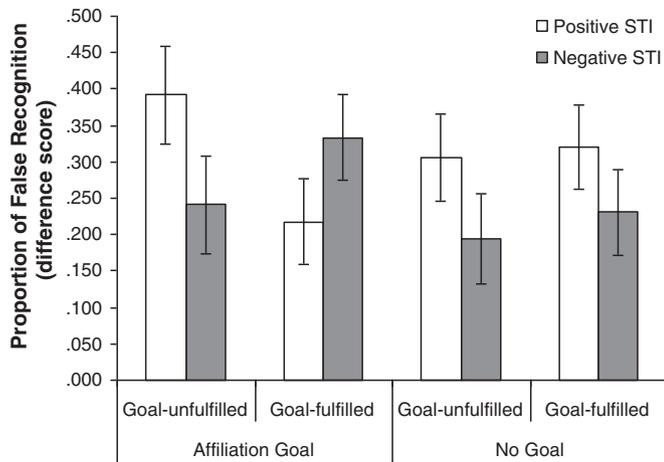
Fig. 2. Positive and negative STI formation (false recognition difference score) as a function of prime and goal-fulfillment (Experiment 2).

unfulfilled, but not when the goal was primed and then subsequently fulfilled through inclusion in Cyberball.

In the no goal prime condition, the Goal-Fulfillment × STI interaction was not significant, $F < 1$. There was, however, a main effect of STI Valence, $F(1, 92) = 5.60$, $p = .02$, $\eta_p^2 = .058$, with positive STIs ($M = .31$, $SD = .32$) generally greater than negative STIs ($M = .21$, $SD = .30$).

To summarize, when participants were primed with the goal to affiliate, and the goal was then thwarted by exclusion during the Cyberball game, they formed more positive than negative STIs relative to when the goal was satiated through inclusion in the game. When the goal was satiated, participants tended to form more negative than positive STIs (note that this is comparable to the no goal condition in Experiment 1 where there was a tendency for greater negative versus positive STI formation). Critical to our prediction and consistent with the goal literature (Dijksterhuis & Aarts, 2010; Förster & Liberman, 2007), the positivity bias demonstrates that the affiliation goal prime indeed primed a goal, the effects of which persisted in the absence of goal-fulfillment but disappeared once the goal was satiated. When no goal was primed, exclusion and inclusion in Cyberball did not differentially affect the extent to which participants formed positive versus negative trait inferences. Participants in the no goal prime condition tended to encode more positive than negative traits. This suggests that following a social interaction, people may have a general tendency to be more positive toward other individuals.

General discussion

In two experiments, we found that an affiliation goal affects spontaneous trait inference formation. In Experiment 1, participants with an affiliation goal formed more positive versus negative STIs, reflecting a positivity bias in impression formation. By contrast, a positive-semantic prime did not differentially affect positive and negative STI formation. This finding rules out the possibility that the affiliation goal simply primed general positivity. Experiment 2 provided stronger evidence for a goal effect in STI formation. Participants with the goal to affiliate showed a positivity bias in STIs only when the goal to affiliate remained activated and was not satiated by an earlier task. Fulfilling the goal eliminated the positivity bias and the opposite pattern, consistent with the no goal condition in Experiment 1, was observed. Taken together, these results suggest that an affiliation goal leads to an increase in STIs from positive relative to negative actor behaviors, thereby showing situational flexibility and bias in STIs in response to perceivers' social goals.

Although chronically activated goals (e.g., personal need for structure; Moskowitz, 1993) have been shown to moderate STI effects, the robustness of STIs led to speculation that they might be impervious to the effects of weaker, temporarily activated goals (Uleman, 1999). However, previous studies have supported the flexibility account of STIs in various ways (e.g., Crawford et al., 2013; Rim et al., 2009; Uleman, Newman, & Moskowitz, 1996). The present research supports and builds on this notion by providing evidence for specificity in STI formation in response to situationally-activated perceivers' social goals. To the extent that STIs are responsive to the needs of the perceiver in a given situation (i.e., their activated goals), this research suggests that STIs are not only flexible but also functional. A more positive impression of a target when one has a goal to affiliate supports that goal, which is to approach and form positive relations with the target.

Despite the fact that STIs can be moderated by perceivers' socially-relevant goals, the present studies are consistent with the previously observed ubiquity of STI formation from trait-diagnostic behaviors (Uleman, 1989; Uleman et al., 2008). We found STI formation in all conditions across both experiments, from positive as well as negative trait-implying behaviors. The critical finding is that, when primed with an affiliation goal, perceivers engage in relatively more STI formation from positive behaviors than from negative behaviors, presumably providing the basis for a more positive future interaction with the target.

Implications and future directions

We examined the goal to affiliate, specifically, because past research has shown that humans are fundamentally social and possess a strong need to belong (see Baumeister & Leary, 1995; Maslow, 1968). However, our findings should not be limited to affiliation goals, and future studies can explore other social goals and their effects on STI formation. For example, one might be motivated to dislike a target (e.g., when a target is the best friend of one's enemy). A goal to dislike a target (versus no goal) might lead to the formation of more negative than positive STIs, resulting in more negative implicit impressions (i.e., an implicit negativity bias).

There is nothing inherently meaningful about the specific type of bias in STI formation (i.e., valence-based) that we found in our studies. The exact type of bias is likely to depend on the particular goal in question. For example, perceivers with a competition goal might show increased STIs for competence-related traits, both positive and negative (e.g., naïve, clumsy, clever, handy), relative to traits that are competence-unrelated (e.g., greedy, mean, patient, kind). In a competitive context, a more diffuse negativity bias (i.e., greater negative STI formation compared to positive STI formation) may not be as instrumental in goal-fulfillment because one needs to accurately understand the skills of one's competitor in order to succeed. As another example, an affiliation goal may lead to greater STI formation from affiliation-related behaviors, both positive and negative. In the present studies, we intentionally chose affiliation-unrelated behaviors because we wanted to guard against simple semantic priming effects of the affiliation goal prime. In future studies, the functionality of implicit trait impressions for goal instrumentality could be explored in a way that disentangles the semantic content of the goal primes from the goals themselves. The present studies lay the groundwork for future studies to explore the flexibility of STIs in the context of various socially meaningful goals.

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