



Contents lists available at ScienceDirect

Journal of Experimental Social Psychology

journal homepage: www.elsevier.com/locate/jesp

FlashReports

The influence of social groups on goal contagion ☆

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ARTICLE INFO

Article history:

Received 11 March 2008

Revised 18 June 2008

Available online 5 August 2008

Keywords:

Goal

Motivation

Priming

Group membership

Imitation

ABSTRACT

Goal contagion is the automatic adoption of a goal upon perceiving another's goal-directed behavior (Aarts, H., Gollwitzer, P. M., & Hassin, R. R. (2004). Goal contagion: Perceiving is for pursuing. *Journal of Personality and Social Psychology*, 87(1), 23–37). This paper tests the hypothesis that goal contagion is more likely between people who belong to the same groups. Because past work on goal contagion has required participants to read about the behavior of others, we also test whether goals are caught when one sees rather than reads about another's motivated behavior. Across three studies, this ecologically valid methodology reliably produced goal contagion, and this effect was more likely to emerge when participants shared a group membership with those they observed. In Study 1, participants were more likely to take on the goal of individuals who belonged to their same university. Study 2 demonstrated that this effect occurred even when participants were not explicitly focused on the group membership of others. A final study verified that our effects were motivational by demonstrating that failing at a goal relevant task increased negative affect, but only for those who viewed the motivated behavior of someone from their own group.

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Introduction

As innately social animals (Caporael, 1997), each of us spends our days entangled in the lives of others. We move within a social context, interacting with others on a nearly constant basis. Because of this pervasive interpersonal contact, the behavior of those who make up our social groups has a profound impact on our lives, controlling behaviors as diverse as how much to recycle (Schultz, 1999), whether to help a needy conspecific (Latané & Darley, 1968), and even how to appropriately defecate (Weinberg & Williams, 2005). By outlining social norms, groups help define both what to do, and how we should do it (Cialdini, Reno, & Kallgren, 1990).

Perhaps because we are so sensitive to the behavior of those around us, we are also strongly affected by the actions of single individuals. In particular, people automatically mimic others' behaviors when perceiving or interacting with them. We copy

the facial expressions (Dimberg, Thunberg, & Elmehed, 2000), non-verbal mannerisms (Chartrand & Bargh, 1999), and pupil size (Harrison, Singer, Rotshtein, Dolan, & Critchley, 2006) of others. Even more striking is work on goal contagion, which has demonstrated that simply perceiving another's goal-directed behavior can cause one to take on this person's motivation and unconsciously pursue the goal as their own (Aarts, Gollwitzer, & Hassin, 2004). In the current work, we examine whether this automatic behavioral influence is itself affected by the groups to which we belong. In particular, we investigate the possibility that a person is more likely to take on another's goal when the two belong to the same group.

Goal contagion and group membership

A number of research findings suggest that one might be especially likely to adopt the goal implied by a group member's behavior. Research on vicarious dissonance has demonstrated that participants experienced cognitive dissonance driven attitude change when simply observing another person engage in an action that conflicted with the person's known beliefs (Norton, Monin, Cooper, & Hogg, 2003). This only occurred, however, when the two individuals belonged to the same social group. Similarly, work on vicarious self-perception (Goldstein & Cialdini, 2007) has shown that people use the behavior of fellow group members to infer their own preferences, just as they would if observing their own behavior. Together, these findings illustrate that the perception of an-

* We thank Robert Arkin, Kentaro Fujita, Richard E. Petty, and the 2007–08 Social Cognition Research Group for their helpful comments and feedback regarding this paper. Special thanks to Pablo Briñol and Travis Julian for serving as the actors in the experimental videos and Jen Morrison for serving as the confederate in Study 2b. The work reported in this paper is supported by a National Science Foundation Graduate Research Fellowship awarded to the first author and a Netherlands Organization for Scientific Research grant (NWO VICI-grant 452-02-047) awarded to the second author.

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other's behavior often initiates similar processes in an observer, but only when one belongs to this person's group. The similarities to goal contagion suggest that this effect might also be more likely when participants categorize another person as a member of their social group.

Naturalistic priming

Because past work utilized a text comprehension paradigm instead of exposing participants to the actual behavior of others (Aarts et al., 2004), we do not yet know if goal contagion generalizes to the more frequent situation of observing others' actual behavior. In order to determine whether the perception of actual behavior produces goal contagion, the current research exposes participants to the videotaped actions of others.

Study 1

To examine the possibility of "real world" goal contagion, we created a pair of videos in which two men played a game of racquetball. In the competitive video they volleyed intensely, running and diving for shots. In the cooperative video they both benefited from the game, nicely hitting the ball back and forth to one another, walking rather than running, and not competing in any way. Pretesting confirmed that participants perceived the actors as more motivated to compete in the competitive than cooperative video, $t(99) = 5.11$, $p < .001$. We also labeled the videos such that participants were led to categorize the athletes as either common group members or not. After viewing one of our priming videos, participants' desire to compete was measured in a football-themed decision making task. We predicted that participants who viewed others behaving competitively would want to adopt more competitive strategies than those who viewed cooperative behavior, but only when these individuals were categorized as members of participants' social group.

Method

Participants

One-hundred and thirty-two students (77 females, 55 males) were randomly assigned to a 2 (priming video: competitive vs. cooperative) \times 2 (group membership: shared vs. not-shared), between subjects design. All participants indicated that they were familiar with American football.

Materials and procedure

Video primes. Participants first viewed one of four videos containing footage of two college-aged men playing racquetball. The competitive version showed an intense competitive game. In the cooperative version, the same two players moved slowly and cooperatively hit the ball back and forth to one another. These videos were also modified to contain a label highlighting the university attended by the two individuals, an especially important group identity for our student population. In the shared group membership condition, the text "The Ohio State University" was overlaid across the top of the video footage. In the non-shared group membership condition, the text label was changed to "The University of Toronto."

Goal activation. Activation of the goal to compete was measured by asking participants to imagine acting as a coach on an American football team. They were then presented with five situations which might arise during a game of college football and asked to "decide how your team should react." Each question outlined an extremely competitive strategy which could be used to address this situation and was accompanied by an illustrated scoreboard with the teams

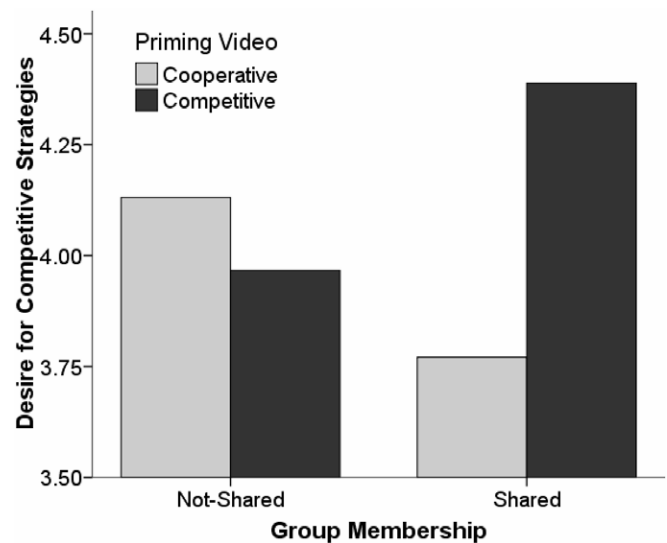


Fig. 1. Mean desire to engage in competitive strategies in Study 1 as a function of the priming video viewed and the university affiliation of the athletes in the video. Higher numbers represent a greater desire to adopt competitive strategies.

"YOU" and "THEM." One item, for example, was: "It is the 4th quarter and you are ahead by 17 points. Your team has a first down on your opponent's 15 yard line and there are only 25 seconds left." Participants then indicated the degree to which they wanted their team to attempt to score one last touchdown on a seven-point scale with higher numbers representing a greater motivation to engage in the (rather inappropriate) competitive strategy. The average of these five items served as our index of the desire to behave competitively.

Results and discussion

As predicted, competitiveness scores showed a significant interaction between the priming video and the group membership of the actors in the video, $F(1,128) = 5.77$, $p = .018$, $\eta^2 = .043$ (see Fig. 1). Among participants who observed members of their own group, those who viewed competitive behavior wanted to implement more competitive strategies than those who viewed cooperative behavior, $F(1,128) = 7.66$, $p = .006$, $\eta^2 = .056$. When the actors were labeled as members of a non-shared group, viewing competitive versus cooperative behavior had no effect, $F < 1$.

In support of our hypotheses, viewing the actual goal-directed behavior of others produced evidence of goal contagion. Critically, this effect only emerged for participants who thought they were viewing the behavior of other Ohio State students, demonstrating that goal contagion was more likely when participants shared a group membership with the video's actors. Although these results provide evidence for our hypotheses, one may argue that our decision making task does not demonstrate changes in actual behavior. In addition, it is possible that our procedure artificially focused participants on the athletes' group membership by highlighting their attended university for the duration of the videos. If this is the case, then perhaps the observed moderation would not be obtained in a more natural paradigm where participants are allowed to categorize the actors however they see fit. Study 2 was conducted to address these concerns.

Study 2

Study 2 utilized a resource dilemma task in which participants could behaviorally express relatively competitive or cooperative behavior. In addition, Study 2 examined whether group member-

ship affected goal contagion even when it was not made unnaturally salient by our procedure. Because the actors in our videos were male, we utilized participant sex to test this possibility. Although use of this variable prevents random assignment, gender is one of the first social characteristics perceived (Quinn, Yahr, Kuhn, Slater, & Pascalis, 2002) and serves as a primary characteristic on which individuals are categorized (Brewer & Lui, 1989). In fact, although men and women can be categorized into non-gender based social groups, strong stereotypical cues (such as a woman putting on makeup) often cause the gender category to be automatically activated and applied to targets (Macrae, Bodenhausen, & Milne, 1995). Based on this research, we expected that the male athletes in our videos would naturally be categorized by gender when participants were not focused on the athletes' affiliation with another social group. Thus, we hypothesized that only male participants would be affected by our priming manipulation.

Method

Participants

Sixty-seven students (45 females, 22 males) filled a 2 (priming video: competitive vs. cooperative) \times 2 (participant sex: male vs. female) design. Participants were randomly assigned to prime condition.

Materials and procedure

Priming video. Participants first viewed one of two videos like those in Study 1. These videos did not, however, contain any labels identifying the athletes' social group.

Goal activation. Participants then completed a resource dilemma task in which they were asked to "play the role of one of two people licensed to fish a small lake." Participants were instructed that they and their "online partner" (actually controlled by the computer) would be fishing from a small lake containing 100 fish. Each fish caught could be kept for profit but would also decrease the lake's final population by a certain amount (as calculated in a table provided to participants). If the population dropped below 70 after both individuals had fished, all profits would be lost. This created a situation in which participants were forced to decide between a competitive strategy which would increase their chances of out fishing their partner (i.e., keeping many fish for profit at risk of making both players lose all earnings) or a cooperative strategy which would protect the lake's population and ensure that both players were able to profit. When the game started, participants were given the first turn, informed that they had "caught 15 fish," and asked to choose how many to keep. This choice served as our measure of goal striving (Bargh, Gollwitzer, Lee Chai, Barndollar, & Trötschel, 2001, Study 2).

Results and discussion

Participants who viewed the competitive video kept a greater number of fish for personal profit than those who viewed the cooperative video, $F(1,63) = 6.84, p = .011, \eta^2 = .098$. Importantly, there was also a marginally significant interaction between priming video and participant sex, $F(1,63) = 3.50, p = .066, \eta^2 = .053$ (see Fig. 2). As predicted, only men viewing our male actors were affected by their behavior, $F(1,63) = 7.40, p = .008, \eta^2 = .105$. No effects emerged for women, $F < 1$. This provides evidence that goal contagion can be affected by group membership even when participants are not explicitly focused on this variable. Furthermore, although one might expect this interaction solely because pursuing the goal to compete in a sporting context is more appropriate for American males (Buyse & Embser-Herbert, 2004), our results appear to be more affected by the activation

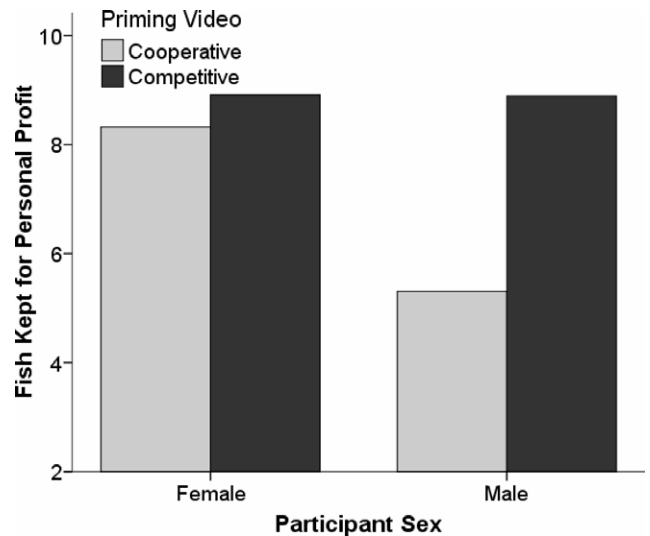


Fig. 2. Mean number of fish kept for personal profit in Study 2 as a function of the priming video viewed and participant sex. Higher numbers represent more competitive behavior.

of a goal to cooperate for male participants viewing the cooperative video.¹

Supplementary study (2b)

We have proposed that the results of Study 2 emerged because certain participants wanted to outperform their fishing partner while others became motivated to cooperate with this person. Study 2b was conducted in order to demonstrate that this was the case. Thus, we tested the possibility that our priming videos would influence participants' affective reactions to being outperformed by a confederate. Because only those participants who are motivated to outperform their partner should become "upset" by this outcome, this paradigm can provide even stronger evidence of active goal striving (see Förster, Liberman, & Friedman, 2007).

The independent variables were identical to Study 2. Twelve males and 23 females were randomly assigned to view either the competitive or cooperative video. Participants were then given the opportunity to compete by working on a large, 36" \times 48" word search puzzle alongside a confederate. This puzzle was wall-mounted and both the participant and confederate worked on it concurrently (using two differently colored dry-erase markers). During the task, our confederate outperformed the participant by inconspicuously finding two words each time the participant located one. Participants' affective response to this experience was then assessed using the affect subscale of the Affect Arousal Scale (Salovey & Birnbaum, 1989). This measure asked participants to indicate how good, happy, and satisfied they felt on seven-point scales.

As predicted, the priming video and participant sex interacted to influence affective reactions, $F(1,31) = 5.46, p = .026, \eta^2 = .150$ (see Fig. 3). After being outperformed by our confederate, men who had viewed the competitive video felt significantly worse than men who had viewed the cooperative video, $F(1,31) = 7.97, p = .008, \eta^2 = .205$. As in Study 2, the manipulation had no effect on women, $F < 1$.

¹ We also examined whether participant sex moderated the findings of Study 1. It did not, $F < 1$. Presumably, our group manipulation made university affiliation highly salient and gender was no longer used as the primary basis for judging the actors' group membership. This fits nicely with research showing that when one social identity is made salient, other possible identities may be inhibited (Macrae et al., 1995).

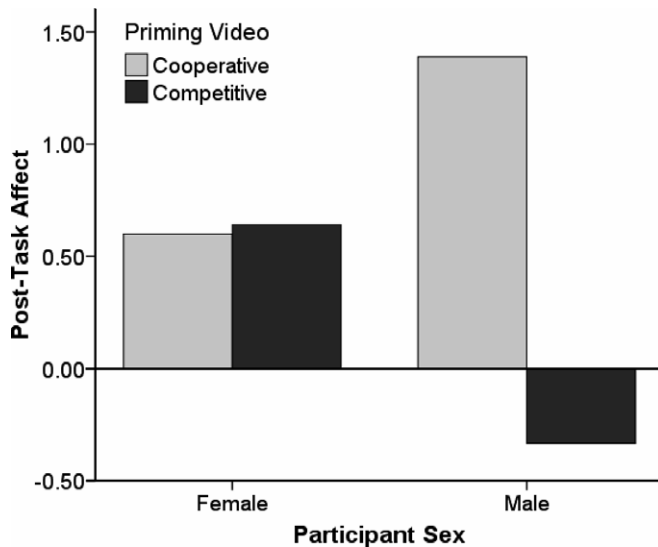


Fig. 3. Mean affect experienced after being outperformed in Study 2b as a function of the priming video viewed and participant sex. Higher numbers represent a greater degree of positive affect.

General discussion

This research shows that goal contagion can occur when participants view an ecologically valid goal prime—the actual videotaped behavior of other humans. Although past work has demonstrated automatic goal pursuit using conceptual priming techniques (for review see Custers & Aarts, 2005), the present studies illustrate a common way in which goals may be primed in our daily lives. These results also highlight yet another potential implication of passive television viewing (cf. Berkowitz, 1984) and suggest that what we see on the television may influence behavior through a new mechanism—goal contagion.

Our work also outlines an important moderator of goal contagion. Although people take on the goals implied by others' actual behavior, this effect is more likely when they share a group membership. This moderation suggests that goal contagion may be a mechanism by which groups coordinate their activities and behavior. By automatically pursuing the motives of others in our groups, the entire group can become a more effective entity, producing outcomes that satisfy the needs of its many members. This potential mechanism of group action appears more powerful than simple behavioral mimicry (Chartrand & Bargh, 1999) because it frees various individuals to pursue the same goal in complementary ways. This, in turn, allows for a more specialized and intricate coordination of group behavior (Tomasello, Carpenter, Call, Behne, & Moll, 2005). Importantly, our work also shows that this form of social sensitivity is quite flexible, as it occurred both when participants naturally viewed others as members of their group (Studies 2

and 2b) and when these others were explicitly cast as common group members (Study 1). Because human societies often have permeable group boundaries (Brewer, 1999), this flexibility is necessary for goal contagion to serve this social function. With the current findings, our work contributes to an understanding of how group membership shapes goal-directed behavior in spontaneous and flexible ways.

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