

Emotional transfer in goal systems[☆]

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Abstract

Five experimental studies explored the phenomenon of affective transfer in goal systems. We find that affect associated with goal attainment may be transferred to means cognitively associated with such goal-events, and that factors affecting the dimensions of transfer include the magnitude of affect invested in the goal, the quality of invested affect and the strength of association between a given means and the goal-event. Accordingly, the transfer mechanism was shown to impact the *magnitude* of affect experienced in regard to the means in question, as well as its *kind* (involving, e.g., promotion-type affect or prevention-type affect), and was shown to influence the interpersonal feelings toward others perceived as helpful to the attainment of various goals.

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Introduction

Walking into a restaurant may constitute a completely different experience if you are about to enjoy a gourmet meal, break a religious fast, or propose marriage. The phenomenology of this and other everyday behaviors may be imbued to a great extent by the goals they serve; the same activity (walking, writing, listening to the radio, and shopping) may serve different goals on different occasions, hence be experienced rather differently at different times. In this paper, we develop a conceptual framework to systematically address this phenomenon, and we describe experimental studies that test our analysis. Some of the questions we address are: What factors affect the *extent* to which goals imbue activities with specific experiential qualities? What *facets* of activity-experiences are impacted? What situational conditions moderate the effects of goals on such experiences? What are some of the *social implications* of this

process? And, what distinguishes goal-means associations from other semantic structures?

Over the past several years, research on goal-related experience has focused mainly on emotional reactions to successful or unsuccessful goal attainment, providing insights as to how motivation influences affect (Carver & Scheier, 1990; Csikszentmihalyi, 1975; Dweck & Leggett, 1988; Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998; Higgins, 1996a, 1997; Wilson, Wheatley, Meyers, Gilbert, & Axson, 2000). Common sense and psychological theory alike agree that successful goal attainment typically results in positive affect, and failure—in negative affect. Because positive affect is pleasant and negative affect unpleasant, these affective states add emotional incentive to the pursuit of personal goals. That is, individuals are not only motivated to attain their goals as such, but are also motivated to attain the positive, and avoid the negative emotional consequences that success or failure of goal-striving may, respectively, engender (Baron, 2000; Bell, 1982; Lommes & Sugden, 1982; Mellers, Schwartz, & Ritov, 1999).

Given that the emotional consequences of different courses of actions are both expected and influential, it is further possible that the corresponding emotions themselves are actually experienced, at least to some extent, during the course of goal pursuit. That is, by sheer

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association, such goal-related emotions could transfer to the associated means to goal completion. In the present paper, we followed the framework of goal systems theory to understand the process whereby goal-related affect, and specifically the emotional aftermath of goal attainment, may come to characterize the emotional experience of engaging in goal-directed activities.

Goal systems theory: Affective transfer

According to goal systems theory (Fishbach, Friedman, & Kruglanski, 2003; Kruglanski et al., 2002; Shah, Friedman, & Kruglanski, 2002; Shah & Kruglanski, 2000a) goals constitute mental representations which content is motivational. From this perspective, goals have two major aspects, a cognitive aspect and a motivational aspect (Kruglanski, 1996a). Their cognitive aspect allows goals to be governed by the same processes that affect all cognitive structures. Accordingly, goals can be cognitively activated, or primed (Bargh, 1997; Bargh & Barndollar, 1996; Bargh & Gollwitzer, 1994; Chartrand & Bargh, 1996) and their presence can be inferred from relevant evidence, and in particular from one's (approach or avoidance) behavior and the circumstances in which it has occurred (Deci, 1975; Kruglanski, 1975; Lepper, Greene, & Nisbett, 1973). In this vein, too, Higgins (1989) has emphasized the cognitive qualities of self-discrepancies from relevant goals such as their chronic or momentary accessibility.

But goals differ from other cognitive structures in their contents that are uniquely motivational. More specifically, goals represent *desirable states of affairs* to which attainment through instrumental actions one is personally committed. From this point of view, goals are different from other semantic structures, for instance, ones that do not represent desirable states of affairs, or that represent desirable states of affairs for others but not for oneself. We revisit this point at a subsequent juncture.

As cognitive entities, goals are assumed to be associatively linked to other cognitive entities, and in particular, to actions perceived as instrumental to their attainment, that is, to *means* assumed to lead to those particular goals (see also, Aarts & Dijksterhuis, 2000, 2003; Bargh & Chartrand, 1999; Bargh, Gollwitzer, Lee-Chai, Barndollar, & Troetschel, 2001; Moskowitz, Gollwitzer, Wasel, & Schaal, 1999). A high level goal may be connected to lower level sub-goals, in turn connected to their own attainment means as well as to other possible sub-goals. Thus, for example, a high level goal of attaining personal success may include two sub-goals, namely professional and social success. Each of these sub-goals, in turn, may be connected to a specific activity (or activities) serving as its attainment means (e.g., attending professional meetings and going on a diet, for professional and social success, respectively).

Interconnected goal-systems may come in different configurations: the number of means attached to a given goal may vary and so may the number of goals attached to a given means. The set of means linked to the same goal defines the concept of equifinality (expressed in the adage "all roads lead to Rome"). Thus, for example, one can satisfy one's hunger by grabbing some food from the refrigerator, by cooking an elaborate meal, or by dining out. The set of goals linked with a given means defines the concept of "multifinality" (expressed by the adage about "killing two birds with one stone"). By dining out, for example, one could satisfy both hunger and various social motives (to see and be seen, etc.).

Strength of goal-means association

The strength of a given goal-means association may be reduced by the simultaneous presence of *multiple alternative means* (Kruglanski et al., 2002). The latter is akin to the classic "fan effect" discussed by Anderson (1974, 1983) wherein the greater the number of specific facts linked to a general mental construct, the less likely it is that any particular fact will be retrieved or recalled upon a presentation of the construct. This conceptualization suggests that the degree of association strength between a goal and a means may be hindered by the number of other means also attached to the goal. A different way of tapping the extent of association could be through assessing the degree to which the former activates, or "primes" the latter (Bargh et al., 2001; Moskowitz et al., 1999). A yet another way might be by directly inquiring into individuals' perception that an activity is commonly perceived as a means to a given goal, and that this means comes to mind when thinking of the goal. Several such diverse ways of creating or assessing the goal-means association were implemented in the present research.

The contemporaneous presence of multiple means is an event that can vary situationally. For instance, an individual engaged in the pursuit of a given goal via a given means, may or may not recall another means to the same objective. In turn, this may weaken the link between the original means and the goal. In other words, an association between a goal and a means can be created momentarily and need not require a history of association. It also implies that the very same activity can be associated with different goals on different occasions. This notion was also examined in the present research.

Transfer of properties

Interconnected cognitive systems are characterized by a transfer of properties between the component units in proportion to the strength of their interconnections. Accordingly, the strength of the cognitive association

between the goal and its means should affect the degree of transfer between the two. A well-known example of a transfer is the spreading of activation from one unit to another (Anderson & Bower, 1973; Neely, 1977; Srull, 1981). But along with mere activation, other properties too may flow along the links. Specifically, we predict that in goal systems, there will be a *transfer of affect* from goals to means. Such affect should transfer to the associated means in proportion to the degree of association between the means and expected goal attainment. That is, while pursuing a given means, one should experience some of the affect that characterizes goal attainment. This is akin to the “anticipatory goal responses” discussed by neo-behavioral learning theorists who described organisms as having emotional reactions during goal pursuit that were analogous to those elicited upon goal attainment (Spence, 1956). Such anticipatory goal responses were considered a primary factor in motivating continued goal striving. Of course, the animal studies conducted in the Hull–Spence tradition are not equipped to delve into research humans’ phenomenal experiences. To do so, therefore, constituted a major objective of the present work.

Quantitative and qualitative aspects

The transfer of affect from goals to associated means has both a quantitative and a qualitative aspect. Concerning quantity, the presence of a goal will lend the activity positive valence in proportion to the goal’s degree of emotional importance, and the degree to which the activity is associated with expected goal attainment. This should also hold for an activity associated with an expected attainment failure, i.e., with regard to which the activity constitutes a *hindrance* rather than a *means*. According to the present analysis, such activity should acquire negative valence when its linkage with the corresponding goal is activated. Thus, the same activity may be experienced differently as function of the goal with which it is currently linked: It will be experienced positively in presence of a goal for which it serves as a means, and, negatively in presence of a goal that to which it is a hindrance. The popular adage about ‘killing the messenger,’ attests to a lay recognition that affect experienced upon learning about a negative goal event (i.e., failure or thwarting) may often generalize to the conduit of the bad news (i.e., the means that brought about the painful realization).

As for quality, different goals may induce different kinds of affect. For instance, goals may vary with respect to their focus on promotion versus prevention (Higgins, 1997), and attainment or non-attainment of goals in these categories may produce different qualities of affect. Attainment of promotion goals is assumed to induce feelings of joy and satisfaction, and their non-attainment—feelings of dejection. By contrast, attainment of

prevention goals may induce feelings of relief and quiescence and their non-attainment feelings of anxiety and agitation. In support of these ideas, Higgins and his colleagues found that framing the same activity (i.e., solving anagrams) as means to a promotion or a prevention goal led to the predicted, qualitatively different, emotional experiences of joy and of quiescence, respectively, upon pursuing the goal through the activity (Higgins, Shah, & Friedman, 1997). We further predict that the transfer of affective qualities from promotion and prevention goals will be proportionate to the strength of association between the goals and the means pursued in order to attain them.

Interpersonal consequences

The affective transfer phenomenon may have potentially important interpersonal implications inasmuch as other people may often be perceived as helpful to the attainment of various goals. In this sense, these individuals may be seen as constituting “means” to goal attainment (see also Moskowitz, Salomon, & Taylor, 2000; van Baaren, Maddux, Chartrand, de Bouter, & van Knippenberg, 2003). If our analysis is correct, the way we feel about these persons (in terms of both the quality and the quantity of affect) should depend both on the type of goal with which pursuit they are associated and on the degree of association strength (in the actor’s mind) between these persons and the actor’s goals.

Semantic versus dynamic properties

As noted earlier, goals differ from other semantic structures in their unique functional contents. Shah and Kruglanski (2003, Study 1) found, for example, that individuals’ differed in the degree to which they perceived a given means as instrumental to goal attainment, and that these differences moderated the degree to which the means cognitively activated the goal concept (as measured via a lexical-decision task). This suggests that it is not only the general semantic linkages between particular means and goal terms, which are presumably shared by speakers within the same linguistic community, that determine activation. Rather, the dynamic interrelation between means and goals, reflected by perceived instrumentality, importantly contributes to this process. Shah and Kruglanski (2003, Studies 2 & 3) further demonstrated that experimentally defining an activity as a means contributes to its ability to activate the goal to a significantly greater extent than control terms also mentioned in the same experimental context. These findings further support the view that the means-goals connection differs from mere semantic (or experimental) associations in its uniquely dynamic nature.

The transfer of affect from goals to associated means is also assumed to stem from the uniquely *dynamic* (and instrumental) properties of goal systems, over and above any *semantic* associations that may exist between the corresponding goal and means terms. The semantic associations may be considered *descriptive*. They depict the way things are or what denotative and connotative implications are carried by a given concept. By contrast, adopting a given state of affairs as a personal goal lends it an affective charge that gives impetus to goal-driven action, and to the states of well or ill being attendant upon goal attainment or non-attainment, respectively. It is this charge that may “spill over” (or spread) to activities perceived as means to the goal in question. For instance, one may perceive weightlifting at a gym as a means that exhibits the strongest semantic association (i.e., that comes to mind most quickly) when thinking of the goal of fitness. Yet one’s personal mode of pursuing fitness may be quite different, say, through jogging. In such a case, the idea of jogging rather than that of weightlifting may elicit affect related to the fitness goal even though the semantic linkage in one’s mind between fitness and weightlifting may be as strong, or stronger, than the semantic linkage between fitness and jogging. Note that the goal-means linkage would further depend on the relevance of the goal. In the absence of any “affective charge” (say because the goal has been completed) the transfer of affective properties would diminish in strength or even disappear.

The present research

Consistent with the ideas presented above, the present research explored the phenomenon of affective transfer from goals to associated means. Toward this end we carried out five experimental studies. Study 1 operationally defined the degree of association between a goal and a means via the number of means attached to a goal, assuming an inverse relation between means number and association strength (cf. Anderson, 1974, 1983). Study 2 measured association strength via the degree to which the goal facilitated the activation of the related means. In both foregoing studies, the major dependent variable was the degree of positive affect transferred from the goal to the means. Study 3 looked at the degree to which associating an activity with a goal for which it serves as means imbues it with positive affect whereas associating the same activity with a goal to which it constitutes a hindrance imbues it with negative affect. Study 4 assessed whether affective transfer is unique to dynamic associations characterizing the links between one’s own, personal goals and means, as compared to equally associated goal and means concepts to which one is *not* committed personally. Finally, Study 5 examined the *quality* of interpersonal affect toward in-

dividuals perceived as instrumentally related to the attainment of goals of various types.

Study 1: Increased means number decreases the transfer of positive affect

Imagine that your goal for the evening was to watch a film, and only one movie in town happened to capture your interest. Attending this movie represents a specific means to the goal of film watching. Imagine now that two such movies existed instead of just one, both of equal degree of promise, that is, two alternative means. In which of the two cases might you enjoy the same movie more: where it represented a sole means to the goal, or one of two possible means? The present theory implies that the single movie case will contribute more to enjoyment. In such a case, the association between the movie and the goal of film watching should be tighter (cf. Anderson, 1974, 1983) hence, pursuing the means should be linked more strongly to the activity’s end. To the extent that the latter constituted an important goal to begin with, the single available means should “mesh” with it more, and hence be experienced as more enjoyable.

The foregoing notions were explored in our first study. Specifically, we operationally defined the strength of the goal–activity association in terms of the number of means to a goal (one vs. two). Participants then reported their expected experience in regard to the first of the means listed. Generating a few vs. one means should weaken the association between the first means and the goal, which, in turn, should lower the positive affect associated with this particular activity. Note, furthermore, that the transfer hypothesis is not limited to emotional experience but, rather, it extends to other goal characteristics that may transfer to the associated means. In the present study, we looked, additionally, at commitment to a focal means, and predicted that it too, beyond positive affect, should be negatively affected by presence of an alternative means.

Method

Participants

Two hundred and twenty-seven University of Wisconsin undergraduates participated in the experiment for extra credit in their introductory psychology course. The gender of the participants was not recorded in this study.

Procedure

The experiment included a survey delivered during a general questionnaire battery. On the first part of the survey, participants were asked to list a personal goal and, depending on the experimental condition, either

one or two activities serving as means to that goal. Participants listed such goals as “doing well in school,” “keeping fit,” or “making friends,” and such activities as “attending classes” and “keeping good notes” (serving as means for the “doing well in school” goal), “running every morning,” and “working out at the gym” (serving as means for the “keeping fit” goal) and “joining a fraternity,” or “being helpful to people” (serving as means for the “making friends” goal). Next, we assessed the affective significance of the means by asking participants to rate the extent to which they enjoyed pursuing the first means listed, and commitment—by asking participants to rate the importance of pursuing that first means (all ratings were made on 7-point scales with the end points anchored as ‘not at all’ and ‘extremely’). After participants completed this survey they were debriefed and dismissed.

Results and discussion

An initial correlational analysis found that participants' *activity enjoyment* rating and their *activity importance* rating were significantly, if modestly, correlated ($r = .16$, $p = .01$). Separate ANOVAs performed on participants' responses to these two items, yielded the expected effect of the number of activities listed $F(1, 226) = 4.35$, $p < .05$ for enjoyment; $F(1, 226) = 5.12$, $p < .05$ for importance. As shown in Fig. 1, participants perceived the first activity listed as more enjoyable and more important when it was the *only* activity listed compared with it being the *first of two* activities listed ($M = 6.24$ vs. 5.93 , for enjoyment; $M = 6.20$ vs. 5.93 , for importance). To examine whether these effects were unique, subsequent ANOVAs examined the effects of listing activities on rated enjoyment and importance while controlling for the effect of the other dependent variable (i.e., importance or enjoyment). These analyses yielded similar effects, $F(1, 225) = 5.48$, $p < .05$ for enjoyment, $F(1, 225) = 6.26$, $p = .01$ for importance.

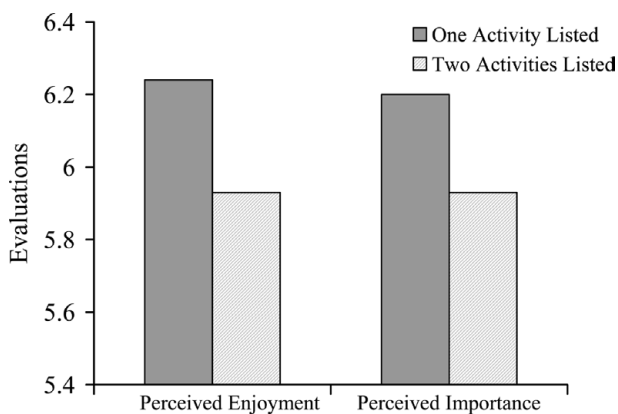


Fig. 1. Enjoyment and importance associated with the first activity as a function of number of activities listed.

It appears then that introducing alternative means with respect to a given goal decreases the positive affect and perceived importance of the original means. Note that this finding is unobvious because its opposite could be readily envisaged. For instance, one might assume that the presence of an alternative affords choice, hence a desirable decision freedom fostering a better mood, hence a more positive attitude to either of the activities listed. Our findings, on the contrary, implied that the positivity of affect toward the means is related *inversely* to the number of means, consistent with the notion that awareness of the alternative means dilutes the association between the goal and the focal means, reducing the transfer of affect and commitment from the goal to the means.

Admittedly, introduction of an alternative means could undermine the experience of the focal means in other ways as well. For instance, it could raise the specter of choosing the wrong activity, inducing a *fear of invalidity* (Kruglanski & Freund, 1983; Kruglanski & Webster, 1996), hence a worry that might interfere with one's enjoyment. Too, the presence of an alternative means could create an aversive conflict that may negatively color the individuals' experience of the focal means. For these reasons, it would be desirable to test our hypothesis using a different way of operationalizing the association between the goal and the means, that did not resort to the introduction of alternative means. Our next study was carried out with that purpose in mind.

That study addressed another limitation of our first experiment, stemming from the fact that it did not vary the magnitude of the goal involved. Goals, after all, may differ widely on subjective importance and the affective investment they command. Whenever the investment in a goal is relatively low, a highly associated means should not be particularly emotionally satisfying. In other words, affective transfer should result from the combined influence of emotional investment in the goal and the strength of the goal–activity association. Accordingly, our next study investigated the occurrence and extent of affective transfer as a function of both these factors.

Study 2: Means-related affect as a combined function of goal–activity association and goal-related affect

In the present study the degree of association between a goal and an activity was assessed through a sequential priming procedure, a method commonly used to investigate associative and inhibitory links among mental structures (cf. Anderson & Bower, 1973; Higgins, 1996b; Meyer & Schvaneveldt, 1971; Srull, 1981), including links tying together different motivational constructs (Bargh & Barndollar, 1996; Fishbach et al., 2003; Shah et al., 2002). When a prime stimulus is presented before a target word, responses to the target are likely to be relatively fast when the prime cognitively activated the

target (cf. Neely, 1977, 1991). In the present context, we assumed that the degree of activation would vary as function of the degree of prior association between the prime and the target. Specifically, we expected that a *goal prime* would facilitate the recognition of a *means target* to the degree that the two are associated with each other. In turn, the degree of association should mediate the transfer of properties from the goal to the means as suggested above.

Method

Participants

Thirty-two University of Wisconsin (15 women and 17 men) undergraduates participated in the experiment in return for extra credit in their undergraduate psychology course. Gender of participants did not yield any significant effects, and will be, therefore, omitted from subsequent consideration.

Procedure

Participants completed the procedure on a desktop computer. The computer program first instructed participants to list 2 goals, each defined as “an attribute or a general characteristic it is your goal to possess....” We inquired about participants’ attribute-goals to ensure that they listed something they considered of general importance. Indeed, participants listed such attributes as “intelligent,” “happy” or “beautiful.” For each goal, participants were further asked to list a means, defined as “...an activity that will help you attain the goal you just listed.” Participants were asked to list only one-word items, and they listed such means as “study,” “party,” or “diet.” This procedure resulted in two goal–activity pairs for each participant (e.g., “intelligent–study,” “happy–party,” or “beautiful–diet”).

Next, participants completed a lexical decision task on the computer designed to assess the strength of the goal–activity association, as discussed previously. In this task, participants were presented with a series of letter-strings, and were asked to decide as quickly as possible whether a given letter-string was a word or not using the “Y” and the “N” keys. At the beginning of each trial, participants were exposed to a prime word for 50 ms, backward masked for 100 ms to ensure it did not reach the threshold of conscious awareness (Rayner, 1978). The prime word appeared first in white at the center of the screen and was replaced by a masking letter string (“xxxxxxxxxxxx”) that was at least equal in length to the prime and used to avoid conveying any additional meaning. The mask, in turn, was replaced by the target word, which appeared in the same location after a very brief delay varying randomly in duration (from 250 to 750 ms) to prevent participants from anticipating the target’s appearance. Also, the target appeared in red to distinguish it from the mask. To assess whether partic-

ipants were aware of the prime, a funneled debriefing procedure was employed. As intended, none of the participant in this study reported seeing any of the primes presented on the screen prior to the appearance of the masking string.¹

After 10 practice trials, that included an equal number of words and non-words as targets, participants started the main part of the lexical decision task. Primes consisted of either the participants’ listed goals (i.e., their desired attributes) or of non-attribute words (e.g., “house” and “planet”). Targets consisted of participants’ activities, or of control words (e.g., “desk” and “garden”) as well as an equal number of non-words. Each possible combination of primes and targets was presented once.

Because the latency of incorrect responses would be difficult to interpret in terms of inhibitory strength, only correct responses were used in all subsequent analyses (Bargh, Chaiken, Govender, & Pratto, 1992; Fazio, 1990). No systematic differences were found in participants’ error rate on the lexical decision trials. The average error rate was less than 2%. All individual reaction times were first transformed using a natural log transformation to lessen the influence of outliers (Bargh & Chartrand, 2000; Fazio, 1990).

Finally, we assessed how often participants felt (1) happy, (2) dejected, (3) anxious, and (4) relaxed, when pursuing (1) each goal and when engaging in (2) each activity. Each of these eight assessments was made on a 5-point scale from 0 (never) to 4 (frequently). After participants had completed the ratings of their emotions they were debriefed and dismissed.

Goal–activity association

To determine the strength of participants’ goal–activity associations, we examined how presenting participants with one of their attribute goals affected the accessibility of its related means. We calculated the degree to which each attribute-goal was associated to it means by assessing the time required for participants to identify the means as a word when first primed with the related goal. Two separate measures of association were calculated, one for each goal–activity combination. The lower these measures, the stronger we assumed participants’ goal–activity associations to be.

¹ To ensure that participants did not perceive the prime by, for instance, adjusting to its location, a funneled debriefing modeled after that proposed by Bargh and Chartrand (2000) was given to all participants in this study. This debriefing found no evidence that any of the participants in this study recognized the prime word even after being told of its existence. Moreover, even when participants in a separate pilot study were explicitly instructed to look for the priming words they could not report the contents of the prime after each practice trial.

Controlling for the general accessibility of target means.

In assessing goal–activity associations, it was necessary to control for differences in the general accessibility of the target means. We thus averaged how quickly participants identified a means when first primed with a control word. Two separate control averages were created (one for each of the goal–activity combinations detailed above).

Results and discussion

The ratings of emotions were collapsed for every goal and activity. Separate multiple regressions examined how participants' goal-related affect and goal–activity associations singularly and interactively affected activity-related affect for each of the two activities listed. These analyses controlled for the general accessibility of the goals and means (using the control averages detailed above) and revealed that participants' activity-related affect was significantly related to their goal-related affect ($\beta = .74$, $F(1,26) = 31.43$, $p < .001$, for activity 1; $\beta = .54$, $F(1,26) = 17.83$, $p < .001$, for activity 2). These analyses also revealed that participants' activity-related affect was positively predicted by the strength of their association to their related goal ($\beta = .54$, $F(1,26) = 5.35$, $p < .05$, for activity 1; $\beta = .40$, $F(1,26) = 9.32$, $p < .01$, for activity 2). Finally, these analyses revealed also that participants' goal-related affect and their goal–activity association strength significantly interacted to predict their activity-related affect ($\beta = .38$, $F(1,26) = 6.10$, $p < .05$, for activity 1; $\beta = .39$, $F(1,26) = 4.45$, $p < .05$, for activity 2), suggesting that participants' goal-related affect was more predictive of their activity-related affect when the appropriate goal–activity association was strong rather than weak. These interactions are illustrated in Fig. 2, which plots the predicted values for participants' activity-related positive affect as a function of their goal-related affect and the strength of their goal–activity associations. The predicted values were located 1 *SD* above and 1 *SD* below the means of the relevant variables in the regression equation (for a more elaborate discussion of simple slope analysis, see Aiken & West, 1991).

The results of this study show that an activity acquires the emotional significance of its goal to the degree that it is strongly associated with that goal. Thus, whenever the goal is emotionally significant, so are the activities with which it is closely associated, and whenever it is of little emotional significance so is the associated activity, all relative to the degree of association between the goal and the activity. This finding empirically illustrates a concept inherent in the very notion of emotional transfer, namely that the amount of affect actually transferred is constrained by the amount that could be potentially transferred, that is, by the quantity of affect invested in the original goal-stimulus.

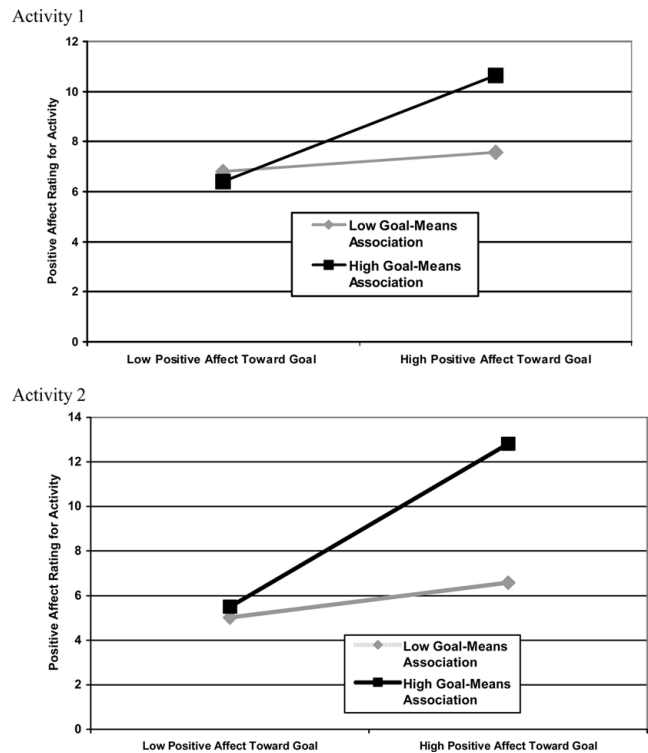


Fig. 2. Positive affect toward activity as a function of the strength of the goal–activity association and positive affect toward goal. Note. “High” and “Low” values represent ± 1 *SD* from the respective means.

Furthermore, the present study is consistent with the results of Study 1 wherein the degree of association-strength was inferred indirectly from the presence of an alternative means presumed to weaken the linkage between any given means and the goal in question. Whereas those prior results could be subject to alternative interpretations phrased in terms of the fear-of-invalidity (Kruglanski & Freund, 1983) or aversive conflict, the present findings are not vulnerable to these particular re-interpretations in that it did not introduce alternative means at all. Rather, it examined the relation between the extent of transfer and the strength of the goal–activity association using for this purpose a new, and arguably a more direct measure of association strength namely, the degree to which the goal cognitively activates the means. That this method conceptually yielded findings consistent with those of our first study is consistent with the transfer hypothesis at the center of this investigation.

Study 3: Affective transfer from separate goals to a singular means: Experiencing the same activity differently

Whereas the degree of association between a goal and a means could reflect their past history of conjunction and, hence, could be regarded as relatively chronic (as probably was the case in Study 2), it is possible that a

goal–activity association may be forged momentarily as well. For instance, in Study 1, the mere addition of an alternative means in an experimental context might have diluted the degree of association between a given means and a goal. It is possible, moreover, that the *very same activity* would be linked to different goals in different situations. Activating one of those goals might momentarily enhance its corresponding link to the activity, whereas activating another goal might activate a different corresponding link.

It then follows that the same activity might be experienced very differently on different occasions as function of its different associated goals that happen to be activated at the time. A particularly sharp differentiation might arise where the activity bore a promoting relation to one goal, defining it as a *means*, and an impeding relation to another goal, defining it as a *hindrance*. Activating a goal to which an activity is linked as a means should transfer to the activity the positive affect related to goal-attainment (as shown in Studies 1 and 2), whereas activating a goal to which an activity is linked as a hindrance should transfer to the activity negative affect related to attainment failure. The present study sought to investigate these possibilities in the context of eating behavior.

We primed one out of two goals, weight-watching and food enjoyment. We assumed that eating fattening foods should promote food enjoyment but impede weight-watching. Based on our earlier analysis, we further assumed that priming the goal of food enjoyment would imbue the eating of high-calorie food with a positive affect, whereas priming the goal of weight-watching would imbue the same activity with a negative affect.

Method

Participants

Ninety University of Maryland undergraduates (59 women and 31 men) participated in the experiment in return for \$5.²

Procedure

Upon arrival at the site of the experiment, participants responded to a survey supposedly designed to test the influence of different food ingredients on people's moods. On the first part of the survey we presented some questions that, depending on the experimental condition, were used to prime either the goal of weight-watching or of food enjoyment. Weight-watching was primed by asking participants to rate on 7-point scales

the extent to which they: (1) have ever been concerned with watching their weight, (2) try to restrict what they eat, (3) try to restrict the size of their meals, (4) believe they should be health-conscious about what they eat, (5) try to be careful about eating fattening foods, and (6) eat healthy food. They were further asked to write down the reasons for consuming (or not consuming) healthy foods. This procedure was assumed to activate the goal of weight-watching. Food enjoyment was primed by asking participants to rate on 7-point scales the extent to which they (1) enjoy good food, (2) enjoy gourmet meals, (3) enjoy eating gourmet chocolate, (4) like the smell of a home cooked meal, and (5) enjoy dining at a fine restaurant. Participants in this condition were further asked to list their favorite foods and describe the circumstances under which they enjoy these foods the most. This procedure was assumed to activate the goal of food-enjoyment. Finally, in a no-prime, control condition, participants were not presented with this part of the experimental survey.

Following the priming procedure, under the cover of testing the influence of different food ingredients on mood, participants in each condition rated the extent to which they experienced positive and negative emotions when they eat (1) vegetables, (2) fruits, (3) chocolate, (4) cakes, (5) fries, and (6) hamburgers. The order in which these common two low-calorie food items and four high-calorie food items were presented was mixed. Participants were asked to think about each one of the foods and about how it usually influences their mood. Then, regarding each item participants rated on a 7-point scale the extent to which they experienced different emotions when they consumed that particular food. These affective ratings included positive emotions (happiness, calm, relaxation, pride, relief, and enjoyment), and (reverse coded) negative emotions (disappointment, agitation, discouragement, being on edge, sadness, tension, and shame). After participants rated their emotions with regard to each food item, they were debriefed and dismissed.

Results and discussion

The affective ratings were collapsed across the high calorie foods and the low calorie foods. ANOVA performed on these ratings revealed a goal \times food interaction, $F(2, 87) = 3.57, p < .05$. As shown in Fig. 3, the low-calorie food was rated as equally positive in the *weight-watching, control*, and the *food enjoyment* conditions ($M = 5.73, 5.48,$ and $5.67,$ respectively), $F(2, 87) = .94, ns$. However, the high-calorie food was associated with less positive emotions in the *weight-watching* condition ($M = 4.74$) compared with the *control* no prime condition ($M = 4.99$), and was mostly associated with positive emotions in the *food enjoyment* condition ($M = 5.35$), $F(1, 87) = 10.38, p < .01$. Two additional main effects emerged for the goal-type

² Independent gender food interaction, $F(1, 88) = 10.14, p < .01$, revealed that men, compared with women, reported more positive emotions with respect to high calorie food ($M = 5.31$ and $M = 4.86$), $t(88) = 2.46, p = .01$, and less positive emotions with respect to low calorie food ($M = 5.45$ and $M = 4.76$), $t(88) = 2.23, p < .03$. The effect of gender was independent of the goal \times food interaction.

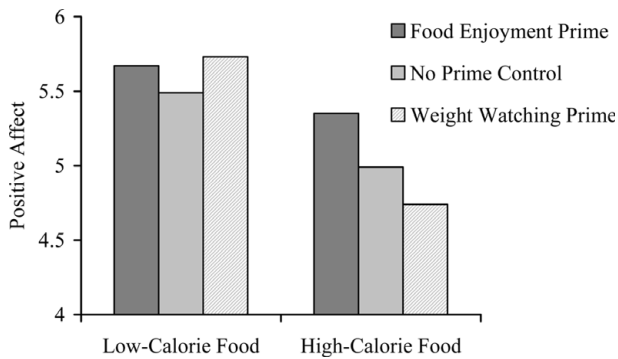


Fig. 3. Positive affect associated with consumption of low vs. high calorie food as a function of goal prime.

variable, $F(2, 87) = 3.48$, $p < .05$, and the food-type variable, $F(1, 87) = 25.04$, $p < .001$. These effects indicate that, not surprisingly, food was associated with more positive emotions in the *food enjoyment* condition compared with the *control* and the *weight-watching* conditions, and so was the low-calorie food compared to the high-calorie food.

It appears, then, that the way people experience a given activity is influenced by momentarily activated goals. Consumption of fattening food constitutes a *means* for the goal of food enjoyment but a *hindrance* for the goal of weight-watching. Accordingly, participants perceived the consumption of fattening food as more emotionally gratifying when the goal of food enjoyment was primed (vs. not primed), and they perceived this same activity as less emotionally gratifying when the goal of weight-watching was primed. By contrast, consumption of low-calorie food may have been perceived as appropriate means for both weight-watching and food enjoyment. Consequently, participants perceived this activity as equally positive in all three experimental conditions. Note that these effects cannot be readily explained by demand characteristics. Since participants' emotional reactions were assessed on a variety of positive and negative emotions and with respect to a large number of food items, it would have been difficult for them to monitor their responses, unless they subscribed to a naive theory of emotional transfer, which is rather unlikely.

Study 4: Dynamic versus semantic associations

Results of Studies 1 through 3 suggest that affect felt with regard to important goals is transferred to activities with which the goals are strongly associated. Our analysis assumes that an affective investment in the goal is essential for transfer to take place. Affect, after all, constitutes a dynamic charge unique to motivational entities (such as goals) and relatively absent from semantic associative structures (denotative or connotative)

devoid of motivational significance. One way of testing the foregoing assumption is to compare the degree of transfer occurring between one's goals and one's personal means to typical means to the same goals ascribed to other people: Others people's means may be as closely associated in one's mind to the goal as one's own means. Yet because of the dynamic connection assumed to exist between one's own goals and means, but not between these same goals and the means of others—the transfer of affect should be manifest with respect to one's own means only, and not with respect to other people's means. In terms of our previous example, weightlifters and joggers may be equally likely to associate jogging and weightlifting with keeping in shape, but only committed joggers might manifest positive affect toward jogging, and only committed weightlifters—toward weightlifting.

Method

Participants

Sixty University of Chicago undergraduates (34 women and 26 men) participated in the experiment in return for \$4. Gender of participants did not affect any of our dependent variables and will not be considered further.

Procedure

This study employed a means (personal vs. general) between-subjects design. With respect to three common goals (i.e., keeping in shape, traveling, and studying), participants were asked to rate the subjective importance of pursuing that goal and then, depending on experimental condition, either an activity that they pursue or an activity that other people typically pursue in order to attain the goal.

Specifically, with regard to exercising, participants rated the extent to which it is important for them to keep in good shape and then listed an activity that they themselves pursue to keep in good shape, or an activity that other people pursue to keep in good shape. With respect to traveling, participants rated the extent to which it is important for them to travel and then listed one place that they plan to visit or one place that other people usually like to visit. Finally, with respect to studying, participants rated the extent to which getting an academic degree is an important objective for them, and then listed their own major or another major offered by their university (other than their own).

Next, the strength of the goal–activity association was assessed. With regard to each of their listed activities, participants were asked to rate the extent to which (1) this activity is an effective means to the goal, (2) this activity is a common way of pursuing the goal, and (3) this activity comes to mind when thinking of the goal.

The degree of affective transfer was then assessed by asking participants to rate the degree to which they ex-

pected to feel positive emotions, including (1) happiness, (2) calmness, (3) satisfaction, (4) relaxation, (5) pride, (6) relief, and (7) enjoyment, upon engaging in (their own or other people's) activities listed. All the above ratings were recorded on 7-point scales (with the end points anchored as 'not at all' and 'extremely'). After participants completed this survey they were thoroughly debriefed and dismissed.

Results and discussion

The ratings of (1) positive emotions and (2) perceived goal–activity associations were collapsed into indices of affective-transfer and association-strength. ANOVA of these indices yielded the predicted means (personal vs. general) \times index interaction, $F(1, 58) = 13.48$, $p < .01$, indicating that personal and general means were equally semantically associated with the goals ($M_s = 5.44$, $t < 1$, ns) but positive affect was associated with personal means ($M = 5.09$) more than with general means ($M = 4.26$), $t(58) = 3.92$, $p < .001$.

Furthermore, this pattern of interaction and in particular, the transfer of positive affect, was only obtained among participants who were highly committed to the relevant goals. The ratings of subjective goal importance were collapsed and participants were divided into high vs. low on goal-commitment based on a median split. ANOVA yielded a means (personal vs. general) \times index \times commitment (high vs. low) interaction, $F(1, 56) = 6.23$, $p = .01$. As shown in Fig. 4, highly committed participants associated positive affect with personal means ($M = 5.30$) more than with general means ($M = 4.10$), $t(29) = 4.26$, $p < .001$. However, low-committed participants reported similar levels of positive affect with regard to their personal means ($M = 4.90$) and general means ($M = 4.46$), $t(27) = 1.39$, ns . Note that high and low committed participants were similar in their tendency to

semantically associate personal and general means with goal attainment ($t(29) = .49$, ns , for highly committed participants and $t(27) = .71$, ns , for low-committed participants).

It appears then that personal means to various goals, more so than other people's means, elicit positive affect to the extent that people are committed to these goals, even though the latter means are as strongly associated with the goals in the question. As Frijda (1999) pointed out, affect is the inherent consequence of goal pursuit, intimately linked to actual or expected goal attainment or non-attainment. From that perspective, the affect felt with regard to one's own but not other people's means is consistent with the notion of affective transfer from goals to such means only that are personally pursued by the individual. In this sense, the present results are consistent with the portrayal of goal systems as dynamically (rather than semantically) associated configurations (Kruglanski et al., 2002).

Study 5: The transfer of affective qualities to social means

So far, our studies explored the transfer of *the quantity* of positive and negative affect, associated with goal attainment or non-attainment, respectively. Goal systems theory, however, further predicts that the *quality* of emotional responses should also transfer from goals to linked means as a function of their degree of association. Our last study in this series investigated such qualitatively nuanced transfer. To that end we utilized what Higgins' (1997) refers to as *ought goals* which attainment is assumed to foment prevention-type affect (e.g., relief or calm), and *ideal goals*, which attainment is assumed to give rise to promotion-type affect (e.g., happiness or euphoria).

This study was unique also in its consideration of *other people*, rather than *activities* (tapped in the research thus far) as the potential means to one's objectives. The social psychological concept of *interdependence* (Thibaut & Kelley, 1959) highlights the instrumental potential of other persons in facilitating (or impeding) peoples' goal-directed behaviors. Indeed, it is hard to imagine the accomplishment of anything significant without at least a modicum of assistance from others. From relatively mundane activities as shopping for groceries to such large-scale undertakings as building a home, getting education, or raising children, other people are indispensable to our ability to get things done. Moreover, some individuals may be more strongly associated with the pursuit of specific objectives than others: One's spouse may be closely associated with the goals of love and intimacy, one's personal trainer with the goal of fitness, and one's Zen master with the goal of spiritual transcendence. If our theory is correct, the quality of feelings experienced toward such persons may vary as function of (1) the kind

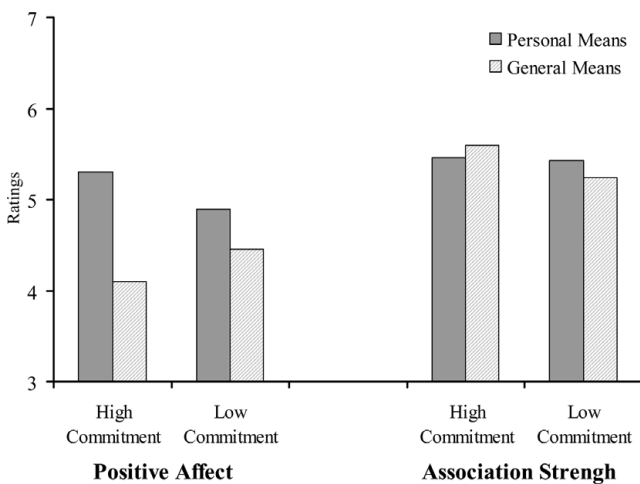


Fig. 4. Positive affect and goal-means association strength for personal means vs. general means toward goal attainment.

of goals they may be helpful in mediating and (2) their strength of association to those goals.

Finally, the present experiment employed a yet different method of assessing the association strength between goals and social means, related to the *order* in which those means came to mind in thinking about the goal. Following the research logic of Higgins, King, and Mavin (1982), we assumed that such order reflects the strength of association between the goal and the individuals mentioned, or the *accessibility* of their names once the goal was activated. In summary then, we hypothesized that participants will develop a *prevention-type* affect toward people strongly associated with helping them to attain ought goals, whereas they will develop a *promotion-type* affect toward persons strongly associated with helping them attain ideal goals.

Method

Participants

Thirty-Seven University of Maryland undergraduates (15 women and 22 men) participated in the experiment to fulfill course requirements. Gender of participants did not affect any of our dependent variables and will not be considered further.

Procedure

Depending on the experimental condition, participants were first asked to list either an “ought” goal (i.e., “something that is your duty or obligation to attain, however, you do not necessarily consider it an aspiration”) or an “ideal” goal (i.e., “something that you hope or aspire to attain however you do not necessarily consider it an obligation”). This procedure resulted in either an ought goal (e.g., “graduate” or “forgive my ex-boyfriend”) or an ideal goal (e.g., “financial success” or “becoming an acupuncturist”) for each participant. Participants then listed the names of three personal acquaintances that help them attain the goal (e.g., “1 My mother; 2 Omid; and 3 Maria”). As already noted, we assumed that the earlier on an acquaintance was listed, the more he or she was associated in a participant’s mind with the goal. Next, participants were asked to imagine that they attained the goal. They rated (on 7-point scales) the degree to which they expected to feel promotion-type emotions: happiness, pride, enjoyment, and prevention-type emotions: relief, relaxation, and calm, following goal attainment.

Finally, with regard to each acquaintance, participants rated (on 7-point scales) the extent to which they experienced different emotions in their relationship with that person. These emotions included promotion-type emotions (happiness, pride, enjoyment, disappointment, discouragement, sadness, and shame) and prevention-type emotions (relief, relaxation, calm, agitation, feeling on edge, and tension). The order of these emotions was intermixed and negative ones were reverse-coded. After

participants completed the ratings they were debriefed and dismissed.

Results and discussion

Affective ratings were appropriately averaged into indices of expected promotion-type affect and expected prevention-type affect following goal-attainment ($\alpha = .44$ and $.55$, respectively). Similar promotion-type and prevention-type affect-scores were also computed with respect to each one of the means to the corresponding goal represented by the persons listed ($\alpha = .81$, $.84$, and $.87$, for first, second, and third persons, in promotion-type goal and $\alpha = .85$, $.84$, and $.86$, for first, second and third persons, in prevention-type goal).

Regression analyses were then conducted to test for the influence of goal-related affect on person-related affect. In these analyses, we specifically tested for the direct path between goal-related and person-related prevention-type affect, controlling for promotion-type affect, and the direct path between goal-related and person-related promotion type affect, controlling for prevention-type affect.

With regard to *ought goals*, we found that prevention-type affect, felt with respect to the goal, predicted prevention-type affect, felt with respect to the first and second acquaintances ($\beta s = .32$ and $.35$, $p < .05$), but did not predict prevention-type affect, felt with respect to the third acquaintance ($\beta = .23$, $p = .27$). Correspondingly, with regard to ideal goals, we found that promotion-type affect, felt with respect to the goal, predicted promotion-type affect, felt with respect to the first acquaintance ($\beta = .31$, $p = .06$), but did not predict promotion-type affect, felt with respect to the second and third acquaintances ($\beta = .21$, $p = .30$ and $\beta = .01$, $p = .97$). As shown in Fig. 5, for both prevention and promotion type affect, the stronger the goal-acquaintance association

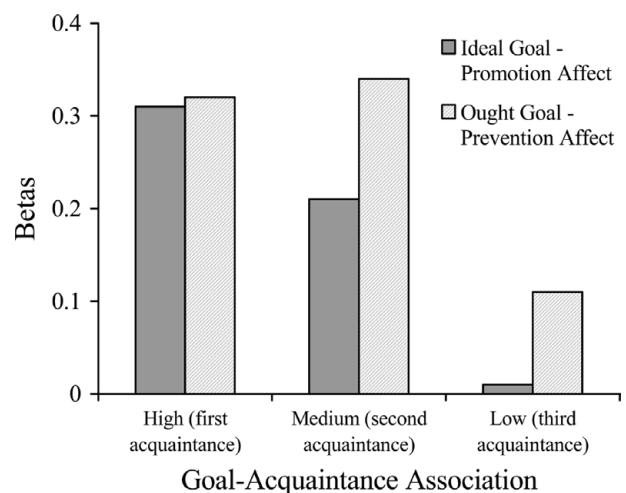


Fig. 5. The relationship between goal and acquaintance-related affect as a function of goal-acquaintance association strength.

(indicated by the order in which the acquaintances were listed), the stronger the degree to which goal-related affect predicted acquaintance-related affect.³ Finally, it is noteworthy that no significant relation obtained between the strength of goal-related *prevention-type* affect and acquaintance-related *promotion-type* affect, nor between the strength of goal-related *promotion-type* affect and acquaintance-related *prevention-type* affect.

The present results demonstrate the transfer of both magnitude and specific affective qualities from goals to their social means in proportion to the degree of the goal–activity association. The particular type of affect associated with ought or ideal goals translated, thus, into feelings toward people viewed as helpful in the attainment of these goals. The more closely associated a person was with the attainment of a goal, the more that person tended to evoke the particular feelings associated with that goal. Further, in accordance with Higgins' theorizing (see also Shah & Kruglanski, 1999) ought goals involve more means considered absolutely necessary to goal attainment. In other words, to prevent an undesirable event from happening, all ways in which it could happen need to be blocked. For that reason, perhaps, affect associated with *ought goals* translated into feelings toward the first and the second acquaintance, whereas affect associated with *ideal goals* translated into feelings toward the first acquaintance solely. However, what might be the main upshot of the present findings is that just like the non-social means, the social means too (i.e., other helpful people) can be the objects of affective transfer. Via this mechanism, personal relationships can be influenced by individuals' goal-systems (Kruglanski et al., 2002) and the role (e.g., of instrumental means) that other people may play within such systems.

General discussion

Affective experience of some sort constitutes a dimension that accompanies most of our activities. At times, such experience is intense, at other times it is mild. At different times too, the emotions we experience are different. A trip to a vacation spot may be experienced as exuberant, completion of a work-project may foster the feelings of calm and satisfaction, a drive through the rush hour traffic may evoke angry irritation, and through a pastoral country side—serenity and wonderment. The presently explored thesis was that such affective experiences are partially determined by the goals one is currently pursuing, and by the extent to which the means used to pursue them are closely associated to the goals in question. A key theoretical notion in our analysis was that of affective transfer, a process whereby

the emotional magnitude and tone connected to goal attainment or non-attainment may spread to activities serving as means or hindrances to the goals at issue, in direct proportion to the degree of association between those activities and the affect-generating, goal-events.

The present experiments lent consistent support to this analysis, and empirically illuminated several of its aspects. To begin with, we operationally defined the concept of functional association strength between the goal-event and the means in several disparate ways that all converged on the theoretically expected results. In Study 1, association strength was inferred from the presence of alternative means connected to the same goal, assuming an inverse relation between such number and the strength with which any given means was linked to the goal at stake. In Study 2, association strength was assessed via the degree to which the goal subliminally primed the means. In Study 3, it depended on the primed goal. In Study 4, it was measured via a questionnaire. Finally, in Study 5, it was inferred from the order with which a given means was generated when contemplating given goals. In all these studies, irrespective of the manner of operationalization, the magnitude of affective transfer was shown to vary directly with the association strength between the goal and the activity.

We also found that the magnitude of transfer is constrained by the magnitude of affect originally experienced with respect to the goal (Studies 2 and 5), and that beside affective *valence*, the *quality* of affect is transferred to the means as function of its strength of association with the goal (Study 5). In Study 2, for example, engagement in a means engendered positive affect in direct proportion to the degree to which this means was activated (primed) by the goal. Furthermore, in Study 3, a positive linkage of an activity to a goal, defining it as a *means*, infused the activity experience with positive affect, whereas a negative linkage of the same activity to a different goal, defining it as a *hindrance*, infused it with negative affect.

Concerning the quality of affect—Study 5 demonstrated that the strength of the goal–activity association mediated the transfer of different kinds of affect to the (social) means, depending on the type of goal involved. In case of ought, or prevention goals, the transfer involved the corresponding feelings of “relaxation,” “calm,” etc., typically associated with a prevention focus (Higgins, 1997). By contrast, for ideal, or promotion goals, the transfer involved the very different feelings of “happiness,” “pride,” etc., typically associated with a promotion focus (Higgins, 1997). Finally, Study 4 demonstrated that positive affect is felt only with respect to activities idiosyncratically related to one's own goal pursuit, rather than to other people's activities not adopted as one's own means.

It is noteworthy that the range of goals and means investigated in the present research was considerable, including among others, participants' life aspirations

³ Note that due to a small sample size we did not analyze the differences between betas obtained in these analyses.

(e.g., professional and academic success), attribute goals (the kind of person one would like to become), appearance/health goals (weight-watching and exercising), duties and obligations (i.e., ought goals) as well as hopes and aspirations (i.e., ideal goals). Despite such heterogeneity of goals and means, our results consistently supported our analysis, inspiring confidence in its validity.

Alternative interpretations

Whereas the data above are consistent with our theoretical notions, it is well to consider potential alternative interpretations of these findings. Thus, with respect to Study 1, it is possible to argue that the introduction of an alternative means created conditions that affected the enjoyment and importance ratings of the focal means by a mechanism other than the presently posited one of a goal-means association, e.g., a fear of invalidity, or an aversive conflict. Note, however, that such an interpretation does not hold with regard to the remaining studies in this series where no alternative means was introduced. Similarly, one could argue that Studies 2, 4, and 5 were correlational in that they assessed pre-existing associations between goals and means. This could obscure the direction of causality in this case, and suggest that rather than demonstrating an affective flow from goals to means, our data may be reflecting the opposite flow, namely, from the means to the goal. According to this notion, a positive affect, say, experienced toward the means could transfer to a goal with which the means in question was associated.

The foregoing interpretation does not seem applicable to Studies 1 and 3 where we experimentally manipulated the association of the same means to specific goals. Thus, in Study 1 a functionally equivalent means engendered a different experience of enjoyment, and perceived importance, depending on the strength of its association with the same goal, whereas in Study 3, the same food was experienced differently depending on its association with one of two distinct goals. Neither of these findings can be accounted for very well by a reverse affective transfer flowing from the means to the goal.

A general alternative interpretation might claim that the positive affect expressed with regards to means was simply a generalized consequence of the fact that a goal was activated, along with the attendant feelings associated with goal attainment (or non-attainment). In this way of thinking, the associated means simply acts to activate or prime a goal, and it is goal-related affect that is being tapped by our measures rather than a transfer of affect from the goal to the means. Note, however, that such an interpretation is at variance with our findings that when the goal was activated *independently* rather than through the means themselves, affect felt toward the means depended on their association with the goal. Thus, in Study 2 we presented the goals as primes (hence acti-

vating the goal representations) yet found differential affect toward various means as function of their linkage to the goals in question. In Study 5, the ideal and ought goals involved were activated to the same degree, and yet the affect differed as a function of the accessibility of different persons serving as social means to those goals' attainment. Finally, in Study 4, the same goals were mentioned equally to participants who listed their own or other people's means and yet the positive affect was expressed to a greater extent to participants' own means.

The above findings suggest that the differential affect we were tapping with regard to the highly associated means was not a simple consequence of a bottom-up goal activation by those particular means. Rather a genuine top down process seems in evidence attesting to a transfer of affect from the goals to the means as function of their degree of association. Such a top down process is not mutually exclusive with a bottom-up process whereby the means activate the associated goals (Shah & Kruglanski, 2003), hence prompting the arousal of goal related affect. In fact, our analysis suggests that a strong goal-means association results in a situation where the goal-means distinction is blurred and a *goal-means unit* or Gestalt is created such that the means is nearly phenomenally inseparable from the associated goal, and the goal is nearly phenomenally inseparable from the means. But a demonstration that a genuine transfer of affect is taking place is better served by a top down flow evinced in the present research, rather than a bottom up flow that would be difficult to disentangle from a simple goal-activation hypothesis.

Finally, note that the findings of Studies 1–3 can be, arguably, explained by a balance hypothesis (Heider, 1958) whereby if one likes a goal (+), that is in a unit relation (association) (+) with a means, then one comes to like the means as well (+) for the sake of a cognitive balance. However, note that Study 5 went beyond mere liking and investigated instead the quality of affect engendered with respect to the means, looking specifically at promotion type, or prevention type, affect (Higgins, 1997). Balance theory does not draw such qualitative distinctions and in this sense is not equipped to explain these quality-of-affect data. Furthermore, the notion of cognitive balance has been typically referred to the individual's conscious calculus of unit and sentiment relations between various elements. It does not seem, therefore, applicable to subliminal priming effects explored in Study 2. In short, taken as a body, the present research exhibits a convergence of results in support of our main hypothesis.

Association, transfer, and the psychology of motivation

The present notion of affective transfer is strongly grounded in the associationist tradition in psychology and it echoes similar concepts in the fields of cognitive psychology (e.g., Anderson, 1974, 1983), animal learning

(e.g., Kimble, 1961), and psychoanalysis (Freud, 1933). It is, therefore, important to pinpoint the novel insights afforded by the present findings over and above what has been known before. Note, first, that whereas in social psychology motivation has been typically juxtaposed to cognition (cf. Kruglanski, 1996a, 1996b) the present analysis adopts a cognitive approach to motivation based on the notion of cognitive associations between goals and means. Accordingly, novel insights into the inter-relationships between such motivational phenomena as goal magnitude, goal-related affect, instrumentality, or intrinsic motivation (see below) are afforded from a cognitive associationistic perspective. Also note that whereas in cognitive psychology proper (e.g., Anderson, 1974, 1983) a pattern of associations linking different units in a semantic structure was assumed to afford a spreading of *activation* between the units, the present transfer notion postulates the spread of additional properties such as the *magnitude*, *valence*, and *quality* of affect. In other words, the present transfer notion, although akin to other associationistic perspectives, contains also unique aspects not shared by other approaches. First and foremost, however, it illuminates a cognitive aspect of motivation that has been neglected, historically, in social and personality psychology (cf. Kruglanski, 1996a, 1996b but see Gollwitzer & Bargh, 1996).

Affective transfer and intrinsic motivation

The idea of affective transfer has intriguing implications for the topic of intrinsic motivation (see also Sansone & Harackiewicz, 2000; Shah & Kruglanski, 2000b). As noted earlier, in a goal system, when an activity is strongly associated with a goal, they form a kind of a unit, or a Gestalt so that thinking about the activity brings the goal to mind and elicit thoughts about goal attainment, and thinking about the goal brings the activity to mind as well. As a result the activity is experienced as an integral part of the goal. In other words, such an activity will be perceived as an end in itself, or as intrinsically motivated.

Viewed in such a structural way, intrinsic motivation could be conceived of as lying on a *continuum of association strength* between a goal and an activity. The greater the degree of association strength, the greater the activity's "intrinsicity," hence the greater the similarity of the emotional experience during activity engagement to that characterizing goal attainment. One implication of this analysis is that not all intrinsically motivated activities (those closely associated with their goals) will be experienced similarly, but rather that the experience of intrinsic motivation would depend on the magnitude of the goal in question and the kind of affect its attainment may give rise to.

Our research supports such a structural view of intrinsic motivation (see also Shah & Kruglanski, 2000b), showing that the degree of association between goal and

means, as well as the emotional investment in the goal, determines the degree to which an activity is enjoyable and emotionally gratifying (Studies 2 and 5). Moreover, the results of Study 5 are consistent with the view that the quality of the affective experience that may characterize an intrinsically motivated activity may differ in accordance to the goal in regard to which the activity is intrinsic. The present, structural, view of intrinsic motivation may appear to differ from Deci and Ryan's (1985; Ryan & Deci, 2000) classic interpretation that views intrinsic motivation in terms of specific motives such as competence and autonomy. However, the two views are not incompatible. Goals related to autonomy or competence, for instance, may be generally more strongly associated with specific behaviors than the goals of prestige, or material gain, hence the former may be *structurally* more intrinsic than the latter.

Furthermore, the present exegesis is consistent with the undermining effects that rewards may often have on intrinsically motivated activities (Deci, 1971; Kruglanski, 1975; Kruglanski, Friedman, & Zeevi, 1971; Lepper et al., 1973). From the structural point of view, linking an activity with a tangible reward may forge an association between them over and above the prior linkage between the activity and its endogenous goal such as competence or mastery. Consistent with our notion that multiple linkages (between a goal and multiple means, or between a means and multiple goals) weaken the associations between cognitive units, such novel association between an activity and an extrinsic reward may weaken the association of the activity to such endogenous goals as mastery or competence. When the tangible reward is ultimately withdrawn, the tendency to engage in the activity could be thus reduced because the activity's original association with the intrinsic goal would have been diluted.

As the present results indicate, a reduction in a motivation's intrinsicity may be brought about not only by its association with an additional goal (such as a tangible reward), but also by adding activities that subserve the same goal. In our Study 2, for example, adding an alternative means (i.e., adding an alternative activity) appeared to diminish the transfer effect, reducing the degree to which the activity was seen as enjoyable. These notions could be profitably explored in subsequent research.

Finally, our analysis has implications for the recent suggestion by Eisenberger and Cameron (1996) that creativity, previously thought to be the unique province of intrinsic motivation (see e.g., Ryan & Deci, 2000) can be enhanced via the use of (extrinsic) material rewards. From the present, structural, perspective, *any* means (e.g., creativity) can be ultimately linked to *any* goal (e.g., a material reward) but the creation of the linkage may be easier for some goals and more difficult for others. Thus, although under certain circumstances creativity could be

intensified by linking it to highly significant material rewards, it might be more efficient to enhance the use of creative strategies by invoking non-material goals, such as competence or mastery, with which such strategies may be more intimately associated in most people's experience. As an example, consider how one might get a child to paint more creatively. It might be more efficient to enhance creative painting by showing how the activity may lead to a sense of autonomy or mastery, because such goals are often pursued creatively, and thus may induce a similar quality to one's painting activity. Linking painting to material rewards, by contrast, may be less effective at inducing creativity (though not impossible) because such extrinsic goals are often pursued rather inflexibly (see also Shah & Kruglanski, 2000b).

Conclusions

The present research explored the phenomenon of affective transfer in goal systems. Overall, our findings suggest that affect associated with goal attainment or non-attainment may be transferred to activities cognitively associated with such goal-events, and that factors affecting the dimensions of such transfer include the magnitude of affect invested in the goal at issue, the type or quality of the invested affect, and the strength of association between a given activity and the goal-event. Accordingly, the transfer mechanism was shown to impact the amount of enjoyment or distress experienced in regard to the activity, as well as its kind (involving, e.g., promotion-type affect or prevention-type affect). An important social implication of affective transfer involved its influence on the magnitude and quality of interpersonal affect felt in regard to other people viewed as helpful in the pursuit of individuals' objectives.

It is possible that affective transfer in goal systems may serve an important self-regulatory function by increasing the motivation to perform activities that are closely related to goal attainment, and decreasing the motivation to perform activities associated with non-attainment. By linking affective experiences to goal pursuit, rather than solely to attainment, people's motivation to engage in behaviors that enhance progress may be appropriately monitored. In this sense, affective transfer could represent a motivational tool signaling to people which activities should be undertaken and which, avoided. Thus, affective transfer may play a critical role in facilitating individuals' progress toward their objectives.

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