The Selfish Goal:
Unintended Consequences of Intended Goal Pursuits

John A. Bargh

Yale University

Michelle Green

Emory University

Gráinne Fitzsimons

University of Waterloo

Social Cognition, in press

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Abstract

Three experiments tested the hypothesis that consciously intended goal pursuits have unintended consequences for social judgment and behavior. From evolutionary theory (Dawkins 1976/2006) and empirical evidence of a nonconscious mode of goal pursuit (Bargh, 2005) we derive the hypothesis that most human goal pursuits are *open-ended* in nature: Once active, goals will operate on goal-relevant content in the environment, even if that content is not the intended focus of the conscious goal. Experiments 1 and 2 demonstrate that goals to evaluate a job applicant for either a waiter or crime reporter position also shape impressions of incidental bystanders in the situation, such that the bystander is later liked or disliked not on his own merits, but on how well his behavior matches the criteria consciously applied in evaluating the job applicant. Experiment 3 finds that a goal to help a specific target person spills over to influence actions toward incidental bystanders, but only while active. Implications of these findings for goal pursuit in everyday life are discussed.

”Nor am I the captain of my soul; I am only its noisiest passenger.”

-- Aldous Huxley

In the 30 years since the seminal paper on social construct *priming* by Higgins, Rholes, and Jones (1977), researchers have reaped an abundant and varied harvest of priming effects (see review in Dijksterhuis, Aarts, & Chartrand, 2007). “Priming” refers to the passive, subtle, and unobtrusive activation of relevant mental representations by external, environmental stimuli, such that people are not and do not become aware of the influence exerted by those stimuli. The ease and ubiquity with which priming effects have been obtained, across a wide variety of higher mental processes such as are involved in social judgment and behavior, has revealed the openness of the human mind to environmental influences, and concomitantly a rather reduced causal role for intentional, conscious processes in those higher mental processes (Bargh & Ferguson, 2000). Perceptual activity, just by itself, can trigger a wide variety of higher mental processes, through the automatic activation of mental representations containing within them affective, behavioral, and motivational responses and tendencies (Bargh, 1997).

The accumulated priming research has shown that environmental stimuli are often the instigators of complex behavior within social interactions, as well as of goal pursuits extended over time (Bargh, 2005; Chartrand & Bargh, 2002; Dijksterhuis et al., 2007). These observations run counter to classic models of motivation and goal pursuit, which assume that “human behavior is affected by conscious purposes, plans, intentions, tasks and the like… [which are] the immediate motivational causes of most human action” (Locke & Latham, 2002, p. 705; see also Bandura, 1986; Mischel, Cantor, & Feldman, 1996). The three distinct (and dissociable) forms of direct environmental control over action (Bargh, 1997) – imitative tendencies from social *perception*,

approach and withdrawal tendencies from *evaluation*, and *motivations* put into motion by specific environmental settings – all operate independently of conscious purposes. It would seem, as Huxley contended, that we are not the all-powerful captains of our own ships that we imagine ourselves to be.

The fact of our demotion is most apparent in the case of nonconscious goal pursuit. The priming literature has shown that goals can be activated without an act of conscious will – independently of conscious purposes – and then operate in the absence of conscious guidance to guide cognition and behavior towards the desired end-state (see Bargh, 2005; Bargh & Ferguson, 2000; Chartrand & Bargh, 2002; Dijksterhuis et al., 2007; Ferguson, Hassin, & Bargh, in press; Fitzsimons & Bargh, 2004). Across a range of goal types – information processing goals such as judgment and memorization, achievement goals such as high performance on a task, and interpersonal goals such as to compete or cooperate – activating the goal unconsciously, without the person's awareness or intent, nonetheless produces the same behavioral or performance outcomes as when that goal is pursued consciously and intentionally. For example, subliminal priming of the goal of cooperation causes participants playing the role of a fishing company to voluntarily put more fish back into a lake in order to replenish the fish population, thereby reducing their own profits in the game (Bargh, Gollwitzer, Lee-Chai, Barndollar, & Troetschel, 2001).

That a goal can operate independently of conscious awareness of its operation would seem to imply the existence of a dissociation between the executive control structures in the brain responsible for 'running' that goal's 'program' and those that support conscious awareness of the goal pursuit. Recent cognitive neuroscience research has confirmed this implication, with the finding that the operation of a goal program and one's awareness of its operation are located in

separate anatomical structures within the frontal lobes (Bargh, 2005; Frith, Blakemore, & Wolpert, 2000). Investigations regarding prefrontal lobe syndromes (Bogen, 1995; Lhermitte, 1986) and the psychophysiology of dream consciousness, which involves prefrontal deactivations (Muzur, Pace-Schott, & Hobson, 2002), are also consistent with the hypothesis that executive control and consciousness are distinct brain processes, as is other evidence that control structures in the brain (e.g., the frontal cortices) are not essential for the generation of consciousness itself (Koch & Tsuchiya, 2007).

Based on these findings in social cognition and cognitive neuroscience, we suggest here that it is the currently active goal that is ultimately in "control of operations", regardless of whether that goal was consciously chosen or nonconsciously activated. If conscious intentions were the only mechanism through which goals became active and operative, then conscious purposes would indeed be the captain of the ship, as the classic models of goal pursuit assumed. However, the fact of nonconscious motivational states means that 'goal pursuit' is to an extent independent of conscious awareness and intentions.

The Selfish Goal

The relation between goals and the individuals holding them is strikingly similar to that between genes and their host organisms. In his classic work *The Selfish Gene*, Dawkins (1976/2006) described how our genes have designed us (through the blind process of natural selection) to be their "survival machines" on which they depend for their propagation into future generations. The core of Dawkins' (1976/2006) argument was that genes, not individual organisms, are the basic unit of natural selection. Moreover, genes were said to be essentially 'selfish' in that their own propagation is their only concern, not the welfare of the host organism (except as it might impact on propagation): "Each gene is seen as pursuing its own self-interested

agenda against the background of the other genes in the gene pool" (Dawkins 1976/2006, p. ix).[1] Among the lines of evidence marshaled in support of this thesis was Hamilton's (1964) demonstration of the principle of *inclusive fitness* – that across all organisms, helpful or altruistic behavior towards others is a function of the proportion of genes one shares with them. Consistent with this principle, Maner and colleagues (Maner & Galliot, in press; Maner, Luce, Neuberg, Cialdini, Brown, & Sagarin, 2002) have shown recently that helping one's kin appears to be driven by altruistic and empathic motives but helpful behavior towards strangers is motivated by more self-interested considerations (e.g., future reciprocation by the stranger). In other words, behavior as a rule tends to be 'self-interested' except to the degree the other person shares genes with us, indicating that the altruistic behavior is in the service of propagating the genes (not the species *per se*, in which case the proportion of shared genes should not matter).

We suggest here that goals are to the individual holding them as genes are to their host organisms, leading to what we call the "selfish goal principle": *once active, goals pursue their own agendas independently of conscious control*. It is clear that nonconscious goal pursuit follows this principle, because the entire sequence of nonconscious goal pursuit is independent of conscious intention or awareness. Several studies have shown that primed goals produce the same outcomes as when they are consciously pursued (Bargh et al., 2001; Chartrand & Bargh, 1996). Moreover, they appear to do so using the same underlying processes as in conscious goal pursuit, as they

[1] This should not be taken to imply that goals compete against each other to the extent of never giving up the steering wheel to another goal. By stipulating that the goal's self-interested activity takes place "against the background of the other genes in the gene pool," Dawkins was underscoring a cooperative side of gene interaction. Indeed, in the same paragraph he noted how his book could have just as easily been titled *The Cooperative Gene*, because "natural selection therefore sees to it that gangs of mutually compatible – which is almost to say cooperating – genes are favoured in the presence of each other" (1976/2006, pp. ix-x). Note that goals also 'cooperate' with each other by taking turns; they turn off and even inhibit their associated sub-mechanisms for a time following completion of the goal pursuit attempt (Atkinson & Birch, 1971; Foerster, Liberman, & Higgins, 2005), giving other goals a chance at attainment. Thus, such cooperation among goals can be seen as yet another similarity between goal and gene operation.

produce the same accompanying phenomenal qualities of experience (see Heckhausen, 1991; Lewin, 1926). These include persistence in the face of obstacles, resumption of interrupted goal pursuits in the face of intrinsically more attractive activities, and evaluative and motivational consequences of success versus failure at the goal attempt (see reviews in Chartrand & Bargh, 2002; Ferguson, Hassin, & Bargh, in press). Most recently, Kawada, Oettingen, Gollwitzer, and Bargh (2004) have demonstrated yet another shared feature: Both conscious and nonconscious goals, when active, are "projected onto" (i.e., attributed to) other people in the course of impression formation.

This high degree of similarity suggests that other qualities might be shared as well. But thus far, it is nonconscious goal pursuit which has been assessed against what is already known about conscious goal pursuit (Chartrand & Bargh, 2002; Fitzsimons & Bargh, 2004). Here we assert that conscious goal pursuit shares a quality previously demonstrated only for nonconscious goal pursuit: operating on any relevant (i.e., applicable; see Higgins, 1996) information in the environment *regardless of whether the individual intends or is aware of it.* In the case of conscious goals, the person is aware of pursuing them with regard to a specific target or set of targets; but just as nonconscious goals operate on perceived information to which they are applicable, conscious goals will too – even information that was not the intended focus of the goal. This is the case addressed in the present experiments. If even consciously pursued goals operate in this independent manner, one can speak of the 'selfish goal' pursuing its own agenda just as the 'selfish gene' is ultimately concerned with its own propagation.

From an evolutionary perspective, the similarly self-interested nature of genes and goals is more than a coincidence. Evolutionary biologists, evolutionary psychologists, and eminent philosophers of science all speak of motivations (goals) as the crucial link between genetic

influences from the deep past and adaptive behavior in the present-day environment (Campbell, 1974; Mayr, 1976; Popper, 1972, pp. 256-280; Symons, 1992, p. 138; Tomasello, Carpenter, Call, Behne, & Moll, 2005; Tooby & Cosmides, 1992, p. 99). Accordingly, goal-directed behavior is widespread in the living world, governing activities from migration to food acquisition to all aspects of reproduction; the evolutionary biologist Ernst Mayr (1976) concluded that "the occurrence of goal-directed processes is perhaps the most characteristic feature of the world of living organisms" (p. 389).

Why do genes require the proxy of goals and motives? Because the rate of genetic change is very slow, too slow for direct genetic controls over behavior to adapt quickly enough to the constantly changing and shifting environmental conditions over long stretches of time. As Dawkins (1976/2006) noted, the inflexibility of direct genetic control is the main reason why 99% of the species that ever existed are now extinct. Therefore, behavior is never directly controlled by the genotype but by a behavior program in the nervous system that results from the translation of the original genetic program. As Dawkins (1976/2006) summarized the situation, "genes exert ultimate power over behavior. But the moment-to-moment decisions about what to do next are taken by the nervous system. Genes are the primary policy-makers, brains are the executives" (p. 19). And, we need only add, goal pursuits are the executive processes of the brain.

Goal Pursuit as an Open-ended Program

Mayr (1976, p. 23) distinguished between two types of such behavior programs: *open* and *closed.* Closed programs are those containing a nearly complete set of ready-made responses to particular stimuli in the environment; these characterize organisms with short life spans or highly stable and unchanging environments, in which there is little time or need to benefit from experience or adapt to local variations. Humans, on the other hand, enjoy longer life-spans and

also a long childhood under the supervision and protection of care-givers, enabling time to learn and adapt to the local environment (e.g., culture). Thus, for humans, most behavior programs are open, enabling the fine-tuning of the general tendencies supplied genetically to be fine-tuned to the specific local conditions into which the infant happens to be born. For open programs, new information acquired through experience is inserted into the translated program in the nervous system. A well-known example of an open-ended program in humans is the young child's ability to quickly learn the local language and absorb the local culture; any infant can be taken to any location on earth and over time will learn that language and that culture as well as if they'd been born there (Pinker, 1994).

The open-ended nature of human goal pursuit is demonstrated most compellingly in the phenomenon of nonconscious goal pursuit. Given the largely unpredictable nature of future events (e.g., Arendt, 1978; Dawes, 1993), participants cannot know in advance in these studies what goal-relevant stimuli might occur (they are not even aware of which stimuli are goal-relevant and which are not). Nevertheless, the nonconscious goal is shown to operate on such relevant information: driving selective attention towards such information when it is present (Chartrand & Bargh, 1996, Study 2; Neuberg, Kenrick, Maner, & Schaller, 2004), extracting out regularities in the underlying pattern or structure of the information (a form of implicit learning) in order to facilitate performance in novel task environments (Eitam, Hassin, & Schul, in press)[2], causing the

[2] Hassin (2005) reported similar unconscious (unintended and unaware) pattern extraction during conscious goal pursuit. On a given trial, participants responded as quickly as possible whether each of a series of 5 small disks was filled or empty (their conscious task); they were faster to respond to the fifth disk when its location on a grid followed a rule-driven sequence unique to that trial, though participants were unaware of these patterns and could not report them. That Eitam et al. (in press) obtained similar unconscious pattern extraction in the case of nonconscious goal pursuit is further evidence of the similarities in operation and outcome of conscious and nonconscious goal pursuit. Both forms engage subprocesses to aid the furtherance of the active goal, but with the individual unaware of the selection and operation of these subprocesses (see also McCulloch et al., in press).

differential evaluation of that information in terms of whether it facilitates (positive evaluation) or interferes (negative evaluation) with the goal (Ferguson & Bargh, 2004), transforming and manipulating the information in the service of the goal (McCulloch, Ferguson, Kawada, & Bargh, in press), and guiding behavior towards the goal (e.g., Bargh et al., 2001).

Once again, the situation is directly analogous to how genetic influences from the distant past operate to guide our present-day behavior through open-ended motivational mechanisms. The open-ended nature of unconscious goal pursuit is documented by the fact that the goal operates on whatever goal-relevant information happens to occur next in the experimental situation, which could not be known to the person beforehand—just as our genes programmed us, through open-ended motivations, to be capable of adapting to and thriving in local conditions far into a future that could not be anticipated in any detail (Dawkins 1976/2006).

The Present Experiments

Our claim is that the tendency of active goals to process relevant environmental information independently of conscious intent and awareness, already demonstrated for the case of nonconscious goal pursuit, holds as well for consciously pursued goals. In Experiments 1 and 2, the participant is given the explicit goal of evaluating a target person's suitability for a specified job opening – either a crime reporter or a restaurant waiter (or neither, in the control condition). They watch a videotape of the ostensible job interview from the point of view of the interviewer, thus taking the perspective of a personnel manager seeking to hire the best candidate. Thus because of these explicit experimental instructions, the participant is aware of and intends to pursue a goal (of evaluating the job candidate with respect to suitability for the particular job) with a particular target person in mind (the interviewee on which the camera is focused), but does not have that goal towards the other people he or she happens to encounter at the same time. We

predict that participants will evaluate anyone they encounter whose behavior is relevant to the conscious job-evaluation goal, even when that person is not the intended target of the goal. To the extent that this 'unintended target' behaves in a manner consistent with the desired qualities of the job opening, he or she should be better liked by the participant, given the selfish goal's effect of positively valuing stimuli that help facilitate the goal (e.g., Ferguson & Bargh, 2004) as well as the positive affect that follows from successful goal attainment (when the person's behavior matches the job search criteria; e.g., Carver & Scheier, 1981).

Experiment 3 extends the selfish-goal hypothesis to the case of an active helping goal; in this study we predicted that an explicit goal to assist a fellow experimental participant with a task will also cause the participant to help anyone whose behavior is relevant to the conscious helping goal, even if they were not the intended target. Experiment 3 also provides a further test of the active-goal hypothesis by including a condition in which the helping goal is fulfilled, which should cause it to deactivate (Atkinson & Birch, 1970; Foerster, Liberman, & Higgins, 2005; Kawada et al., 2004; Lewin, 1926) and no longer operate on unintended targets.

Experiment 1

Participants viewed a videotaped interaction under one of three evaluative mindsets. Some participants were told that the videotape was of job interview for an investigative crime reporter position for a major metropolitan newspaper; another group of participants were informed that the position opening was for a restaurant waiter. Pretesting had shown that the ideal employee for each position would possess traits that were the opposite of the other position: the ideal waiter would be polite and deferential, whereas the ideal crime reporter would be pushy and aggressive. In the control condition, participants were told merely that the interaction was between two former acquaintances whom had not seen each other for awhile (i.e., no explicit evaluative goal). The

taped interaction was briefly interrupted at several points by other people coming into the room. This was done partly to give the interview greater realism but mainly to include a critical interruption that differed in the two versions of the tape: a person interrupted the conversation in either a rude and impolite manner, or an apologetic and polite manner. This was the only difference between the two versions of the tape.

Based on the selfish-goal principle, we expected that the conscious evaluative goals would operate on any relevant environmental information. Thus, we predicted that participants would unintentionally evaluate the other people appearing in the tape based on the criteria they were intentionally applying to the job candidate. Specifically, participants were expected to show greater liking for the interrupter ("Mike") to the extent his behavior corresponded to the prototype of the specific position for which they were evaluating the applicant ("David"), and less liking for Mike when his behavior was the opposite of that prototype.

Method

Participants. Participants were 106 students (29 male) enrolled in an introductory psychology course at New York University who received extra course credit in return.

Pre-testing. A separate group of 40 students completed a two-page questionnaire, in which they were asked to imagine either that they were (a) the owner of a well-established restaurant in the city, or (b) the editor-in-chief of the New York *Daily News.* In the restaurant scenario, participants were told that they are about to open a second restaurant at a new location and that it was their responsibility to hire the new staff. In the newspaper scenario, participants were told that it was their responsibility as editor to hire a new investigative crime reporter whose job it will be to expose corruption in city government. Both groups of participants were asked four open-ended questions: (a) What characteristics would you want the person you hire to possess? (b) What

qualities would make this person a good employee? (c) What questions would you ask during the interview? (d) Are there any qualities that might make you decide NOT to hire a candidate for the position? On the second page of the questionnaire, participants were given a list of 35 adjectives presented in alphabetical order and were asked to check all adjectives that described the ideal person for the job.

The pre-test revealed several trait dimensions that clearly differentiated the ideal waiter from the ideal reporter. Ideal waiter traits were *agreeable, cheerful, cooperative, polite, punctual,* and *well-groomed* whereas ideal reporter traits were *adventurous, aggressive, persistent, rude, skeptical,* and *stubborn*. Based on these findings, Mike the interrupter was scripted to behave rudely and aggressively in one tape condition, and politely and cooperatively in the other.

Materials and Procedure. Participants completed the experiment in groups of five to ten per session. In the control (no evaluative goal) condition, participants were told that they would be watching a videotape of a "getting acquainted" conversation between "David" and "Mr. Moss". David was described as having just graduated from college and in the process of relocating to a new city where a mutual friend suggested he contact Mr. Moss. Participants were instructed merely to watch the tape as they would later be asked questions about the conversation.

In the two experimental (evaluative goal) conditions, participants were told that they would be watching a videotape in which Mr. Moss is interviewing David for a job, and instructed to evaluate David as a potential employee. In one condition, participants were given the goal of evaluating David's suitability for a waiter position, while in the other condition, participants evaluated his suitability for a crime reporter position.

All participants then watched one of the two versions of the taped interaction, which lasted approximately 10 min. The videotape was identical in the two conditions except for the segment in

which Mike interrupted the conversation. It was scripted such that it could be construed as either a job interview or an initial get-acquainted meeting between two people. Questions asked by Mr. Moss during the tape were taken from books about the job interview situation, each of which listed common interview questions (Bolles, 1989; Yate, 1987). During each video, there were three interruptions: a secretary bringing a fax, a boy delivering mail, and a third in which a man (Mike) who had prior lunch plans with the interviewer enters the room; in both tapes, he is told by Mr. Moss that the interview is running behind schedule and is asked to wait. In the "polite Mike" tape, Mike apologized repeatedly for the interruption and agreed to wait outside the room. In the "rude Mike" tape, Mike acted annoyed and brusquely announced that he has a hectic day filled with meetings and will therefore have to reschedule lunch for some other day.

After watching the taped interaction, participants were informed that we were actually interested in their impressions of Mike, the man who had lunch plans with Mr. Moss, and not in their impressions of David, the actual job candidate (or visitor) who had been the focus of the experimental instructions. Participants rated how much they liked Mike, on a scale from 1 ("not at all likeable") to 9 ("extremely likeable"). Next, on a separate page, participants were asked to complete the same likeability scale for David (the original, explicitly assigned target person) as they did for Mike the interrupter. They then completed a short funneled debriefing questionnaire designed to probe for suspiciousness about the purpose of the study (Bargh & Chartrand, 2000), after which they were fully debriefed and thanked for their participation.

Results and Discussion

The dependent measure of likeability of the target interrupter was analyzed by a 3 (Evaluation Goal: waiter, reporter, none) x 2 (Interrupter's Behavior: rude, polite) ANOVA. This analysis yielded significant main effects of Evaluation Goal, F (2, 105) = 8.23, $p < .001$, and of

Interrupter's Behavior, F (1, 105) = 4.17, p = .04. In general, participants in the reporter condition liked the interrupter more than did those in the waiter and control conditions, and across all goal conditions, participants liked the polite interrupter better than the rude interrupter. However, as predicted, both of these main effects were qualified by their significant interaction, F(2, 105) = 3.40, p = .037.

Figure 1 shows that participants in the control/no-goal condition liked the interrupter more when his behavior was polite *(M* = 4.33, *sd* = 2.00) than when his behavior was rude *(M* = 3.42, *sd* = 0.71). Participants' ratings in the waiter condition showed the same pattern, though more strongly: greater liking for the polite interrupter *(M* = 5.67, *sd* = 1.50) than the rude interrupter (*M* = 4.23, *sd* = 1.56). As predicted, however, this strong preference for "polite Mike" in the control and waiter conditions was reversed for participants who had been assigned the goal of evaluating the applicant for the position of investigative crime reporter. In line with the selfish-goal hypothesis, those participants actually liked the rude interrupter *(M* = 5.65, *sd* = 2.15) more than the polite interrupter *(M* = 5.17, *sd* = 1.29). Each of these simple main effects was reliable at $p <$ .03.

The identical analysis of liking ratings for David, the ostensible target person, revealed no such significant main effects or interactions, all Fs < 1. This is not surprising in that David's behavior was identical in both versions of the tape, and was scripted to be plausible under each of the three evaluation-goal conditions (waiter job, reporter job, getting-acquainted conversation) so that it would not differentially match any of the three. This null finding is nonetheless important because it helps to rule out the possibility that participants merely transferred an explicitly-formed evaluation of the assigned target David to the incidental conversation interrupter Mike. Instead,

participants clearly had formed a separate and different impression of the non-focal target person, even though it was not their assigned, explicit task in the experiment.

Finally, in the post-experimental debriefing, no participant reported having tried to evaluate anyone in the tape other than "David" the job candidate, or showed any awareness of the study's hypothesis that their assigned task of evaluating the job candidate along specific criteria (or, for the control group, of watching the interaction) would influence their opinion of someone else they saw on the tape. Instead, they attributed their liking (or not) of Mike to factors such as his physical appearance (which was the same in all conditions) or his behavior (which was the same within each of the two tape versions).

The results of Experiment 1 support the selfish-goal hypothesis that while active, a consciously-pursued goal will operate on all relevant informational input, even that which is not the intended focus or target of the goal. Participants' liking for Mike, an actor who had a minor, incidental role in the videotaped interaction between Mr. Moss and David, reflected the operation of their conscious evaluation goal regarding David. Mike was better liked by the participants if his behavior matched the criteria of the conscious goal, even if this was behavior (i.e., rudeness) that is not normally liked (as shown by the control condition ratings). Conversely, Mike was liked less if his behavior mismatched the criteria of the conscious goal, even if this was behavior (i.e., politeness) that was normally liked (as it was by control group participants).

Our selfish-goal model holds that active goals, whether consciously or nonconsciously pursued, guide cognition and behavior towards their target or 'desired' end-state independently of conscious, explicit guidance. In Experiment 1, this would mean computing and storing impressions of incidental target persons to the extent their behavior was relevant to the active goal pursuit. Consistent with the model, participants' liking of an incidental, non-focal target person

was a function of whether his behavior matched versus mismatched the criteria of their explicit evaluation goal towards someone else. However, definitive conclusions regarding the unintended formation and storage of non-target impressions cannot yet be drawn, because after they had viewed the tape, the Experiment 1 participants were explicitly asked to rate their liking of Mike the conversation interrupter. This leaves open the possibility that participants did not unconsciously evaluate Mike at the time they encountered him on the tape (i.e., "on-line"; see Hastie & Park, 1986), but only when later asked to do so, based on their memories of Mike's behavior.

Note that this alternative account would still require an unintended application of the active evaluation goal to the behavioral information about Mike retrieved from memory, in order to produce the obtained pattern of liking ratings in Figure 1; the issue is whether the liking judgment is itself produced (unintentionally) by the active goal, versus only if and when such a judgment is solicited by the experimenter. As our selfish-goal model posits the former, unconditional account, we conducted Experiment 2 to rule out this alternative explanation, and also to provide a replication of the basic Experiment 1 findings. Thus, the procedure for Experiment 2 was identical to that of Experiment 1 except that participants provided free response descriptions of Mike, and were not asked in any manner how much they liked him. Instead, degree of liking was assessed by hypothesis-blind judges who coded the free response descriptions.

Experiment 2

Method

Participants. Taking part in the study were 72 undergraduates (30 male) enrolled in an introductory psychology course at New York University. Data from one participant were removed from all analyses because of failure to follow task instructions (i.e., the free description was of the

focal conversation-job interview target instead of the interrupting Mike), resulting in a final sample size of 71.

Materials and Procedure. Materials and procedure were identical to those of Experiment 1 except for the following. First, an open-ended, free-response measure of the participant's impression of Mike was substituted for the likeability scale. After viewing one of the two versions of the videotaped interaction (rude versus polite Mike), participants were given a mainly blank piece of paper with instructions at the top concerning Mike, one of the people who interrupted the meeting between David and Mr. Moss. Participants were reminded that Mike was the one who had lunch plans with Mr. Moss. Participants were asked, in the space provided, to describe Mike and his interruption of the meeting "as if you were telling a friend what had happened."

The second modification was to eliminate the waiter-goal condition, as the results of Experiment 1 showed that it produced the same pattern of results as in the baseline, no-goal condition. (Because the effect of the Interrupter's Behavior [rude vs. polite] factor was, if anything, weaker in the no-goal than the waiter-goal condition, inclusion of the no-goal instead of the waiter-goal condition provides the more conservative test of the predicted Evaluation Goal x Interruption Behavior interaction.) Participants in Experiment 2 were told either that the interaction was a 'catching-up' conversation between two former acquaintances or that it was an interview for a crime reporter position at a local newspaper.

Participants' free response descriptions of Mike were coded by two raters blind to condition and hypotheses. Raters judged how much each participant liked Mike, on a scale ranging from 0 "extremely dislike" to 10 "extremely like". Interrater agreement was high, $r(69) = .79$, $p < .001$, and so the mean of the two ratings served as the dependent variable in the analyses.

Results and Discussion

Likeability ratings were entered into a 2 (Evaluation Goal: crime reporter vs. none) x 2 (Interruption Behavior: rude vs. polite) ANOVA. Replicating the key finding of Experiment 1, the Evaluation Goal x Interruption Behavior interaction was again significant, $F(1, 67) = 10.09$, $p = .002$ (see Figure 2). Participants in the control condition liked "polite Mike" ($M = 5.9$, $sd = 2.2$) more than "rude Mike" ($M = 4.5$, $sd = 1.6$), but those with an active crime-reporter evaluative goal liked rude Mike ($M = 5.5$, $sd = 1.9$) more than polite Mike ($M = 3.8$, $sd = 1.9$). As in Experiment 1, during post-experimental debriefing no participant reported any intention of evaluating anyone in the tape other than the focal job candidate, or showed any awareness that their evaluation of the job candidate might influence their opinion of someone else they saw on the tape.

These findings provide additional support for the selfish goal principle. They replicate those of Experiment 1, by showing that when a currently active goal operates on information in the environment relevant to its purposes, even if that information was not the intended focus of consciously-held goal. As in Experiment 1, participants with a goal to evaluate one person – David – for a crime reporter position unintentionally evaluated another person – Mike, an incidental bystander – using the same goal-based criteria. This caused them to manifest greater liking for the rude version of Mike than the polite one, the opposite of what their preferences would have been without the goal operating, as evidenced by the control condition results. As these effects were obtained in participants' free descriptions of the conversation-interrupter Mike, these findings extend those of Experiment 1 by confirming that participants had computed their evaluations of the incidental bystander on-line, while the evaluation goal was active, and not only when asked later via the explicit liking scale.

Experiment 3

In line with the selfish-goal hypothesis, Experiments 1 and 2 demonstrated that an active evaluation goal operates – without the perceiver's intention or awareness – on any goal-relevant information in the environment, even when not the intended focus of the goal. In Experiment 3, we sought to extend the generality of these findings by testing the hypothesis with a completely different kind of goal – that of helping.

In addition, in order to provide a further test that these "spillover" effects of consciously pursued goals are driven by the active goal itself, we included a condition in which the goal is reached or satisfied, and thus no longer active (Foerster et al., 2005; Lewin, 1926). Foerster et al. (2005) reported six experiments confirming that goals increase the accessibility of goal-related constructs while the goal is active, but goal fulfillment causes the inhibition of those same constructs. In Experiment 3, some participants were given a goal to help a specific target, while others pursued a simple interaction goal. Of participants with the helping goal, half were given the opportunity to fulfil it and half were not, prior to the arrival of an additional, incidental target person. We predicted that the active helping goal would generalize to an incidental target, leading participants to unintentionally pursue their helping goal with the new person, but that this would not occur for those participants who had satisfied the goal before the new person arrived, and thus for whom the helping goal was no longer active.

Method

Participants. Thirty-nine female undergraduates at New York University participated in this experiment in partial fulfillment of a class requirement.

Procedure. The experimenter greeted each participant individually upon her arrival; she was told that the experiment would be run in pairs, upon arrival of the second participant. One

minute later, a female confederate arrived; the experimenter then told the "participants" (the confederate and participant) that they would be working on a task together for most of the half-hour session, but that at the end, an undergraduate honors student (a second confederate) would stop by to give them a very short questionnaire (which was in fact the main dependent measure of the experiment). The experimenter explained that the focus of the study was how people perform when working alone versus with a peer or authority figure, and that they had been assigned to the peer condition. After this point, the procedure varied by experimental condition.

Control condition. Control participants were told that they would work together on a visual images task, in which they would take turns looking at ambiguous pictures and describing their ideas about possible identifications for the images aloud. Participants looked at the materials, a set of ambiguous photographs (magnified images), and took turns giving their reactions to the images, and guesses about what the image might be. After fifteen minutes of this, participants were interrupted by a knock on the door. The experimenter frowned and said, "Hmm, that must be Terry. She isn't supposed to come until the end of the study." After opening the door and talking to someone in the hallway, the experimenter came back and explained to the participants that they would now fill out the questionnaire for Terry, the honors student, and return to the experimental task immediately afterward. Participants completed the questionnaire for the honors student (see *Materials* section below) and then returned to the visual images task for 5 min. Finally, they completed a funneled debriefing questionnaire, and were fully debriefed and thanked for their participation.

Helping Goal Conditions. Participants in the two helping goal conditions were told that they would work together on a visual images task, in which one participant would attempt to decipher ambiguous images, and the other would help by giving clues. The experimenter then

looked through her notes and said that "Stacy" (the confederate) had been randomly assigned to figure out what the images were; at that point, the experimenter emphasized to the participant that she must try hard to help Stacy on the task. (This constituted the manipulation of the helping goal.) The specific instructions were: "[Participant name], your goal for the study is to try as hard as you can to help Stacy with her performance. You should concentrate on being as helpful as you possibly can, in any way you can think of other than giving her the answer, to help her identify the image." The experimenter then briefly explained the task. The pair would look at a series of ambiguous pictures, for which the helper would be given the correct identifications. The problem-solver (confederate) would try to guess the correct identification, and the helper (participant) would provide clues and guide the problem-solver towards the answer, without giving it directly.

In the *active helping goal* condition, the procedure from this point on was identical to that in the control condition: Participants worked on the task for 15 min, paused to complete the honors student's questionnaire, returned to the experimental task for a further 5 min, and were then debriefed and thanked. In the *completed helping goal* condition, participants were given a slightly shorter version of the visual images task, which they could complete within 15 min. When they had finished, the experimenter reiterated that the task was completed, saying: "Thank you; you are now finished with the visual images task. The honors student should be here shortly to give you a questionnaire to complete." On this cue, the honors student (confederate) arrived soon after. Participants completed the questionnaire (see next section) and funneled debriefing task, and were then thanked and fully debriefed.

Materials. The "honors student questionnaire" was the main dependent measure of Experiment 3, and asked two questions about the participants' future plans to donate to the university as an alumnus. The first item asked about their willingness to donate

"unrestricted" funds that the university could use for any need; the second asked about their willingness to donate if they could specify the purpose for which their donation would be used. For both items, participants were asked to circle a range of money they would foresee donating, on a 0-10 scale, where the choices were: $0, $1-49, $50-99, $100-249, $250-499, $500-999, $1000-2499, $2500-4999, $5000-9999, and "$10,000 and above".

At the bottom of the page, there was a note which read, "Thank you for completing my questionnaire. I am an undergraduate student trying to finish a research project for a class this semester. I can't give participants credit for doing my questionnaire, so I rely on students to volunteer to help with my study. If you are willing to volunteer for no credit, please indicate the maximum length of questionnaire you'd be willing to do." Participants chose from nine time commitments, spanning from 0 to 60 minutes. Choices were: 0 minutes, 1-2 minutes, 5 minutes, 10 minutes, 15 minutes, 20 minutes, 30 minutes, 45 minutes, and 60 minutes.

Results and Discussion

As in Experiments 1 and 2, no participant indicated any awareness of the hypothesis of the study; specifically that their donation and time-commitment choices might have been influenced in some way by their activities during the visual images task.

The two alumni-donation items were highly inter-correlated ($r = .86$), and so were combined into a single composite charity measure. A one-way between-participants ANOVA examined the effect of Goal Condition (active goal, control, completed goal) on the composite charity measure. The predicted main effect was reliable, $F(2, 36) = 6.10$, $p < .01$. As shown in Figure 3a, participants in the active goal condition reported they would give significantly more money [$M = 5.08$ ($sd = 1.37$) on the 0-10 scale] than would participants in the control [$M = 3.79$, $sd = 1.69$, $F(1, 36) = 4.86$, $p < .05$] or

completed goal [M = 3.14, sd = 1.32, F (1, 36) = 11.89, p =.002] conditions, which did not differ reliably from each other [F (1, 36) = 1.28, p >.25]. Roughly translated into dollar amounts, participants in the active goal condition reported on average that they would give in the $250-$499 range, those in the control condition in the $75-$175 range, and those in the completed goal condition in the $50-$99 range.

A second one-way ANOVA was conducted on the dependent measure of how much time participants were willing to volunteer to the honors student's study. The predicted main effect of Goal Condition again emerged, F (2, 36) = 4.71, p < .02. As shown in Figure 3b, participants in the active goal condition volunteered more time [M = 3.46, sd = 2.47] than did those in the control condition [M = 1.75, sd = 2.22, F (1, 36) = 4.26, p < .05], and than those in the completed goal condition [M = 1.07, sd = 1.44, F (1, 36) = 8.98, p < .01].

The results of Experiment 3 provide further empirical support for the selfish-goal principle, involving a different focal goal (helping) than in the previous studies, plus a comparison of an active versus inactive (satisfied) goal condition. Participants actively engaged in helping a specific other person with a picture-identification task were more willing to give money to a charitable cause than did control participants for whom the helping goal was not currently active. They also pledged more of their actual time to help a stranger (the honors student) with her research project, extending the domain of observed selfish-goal effects beyond the social judgments of Experiments 1 and 2 to behavioral intentions and expressed commitments to another person. Finally, as the model predicts, deactivated or completed goals do not show any such 'spillover' effects, as in the present case of participants who were given the opportunity to complete their helping goal prior to collection of the dependent measures. That the selfish-goal effect disappears after the goal has

been satisfied (and thus is no longer active) supports the conclusion that active goals drove the effect in all three studies.

General Discussion

The results of three experiments supported the hypothesis that conscious, intended goal pursuit can have unintended consequences. When one is explicitly evaluating another person according to specific criteria, such as suitability for a particular job opening, one also tends to evaluate other people encountered at the same time using those same criteria. Those that fit the desired features of the evaluative goal are positively evaluated, relatively speaking, and those that do not fit are negatively evaluated. Thus, as in the present Experiments 1 and 2, positive impressions can be formed of people who otherwise would be disliked, as with the rude and aggressive Mike-the-conversation-interrupter of Experiments 1 and 2. These findings are in harmony with Ferguson and Bargh (2004) and other studies in which disliked attitude objects suddenly become liked when a goal becomes active for which those attitude objects are facilitative; recall how the intergroup conflict and animosity in the classic Robber's Cave boys' camp study evaporated when the former 'enemy' groups had to work together to achieve a common goal (Sherif, Harvey, White, Hood, & Sherif, 1961).

Moreover, Experiment 3 showed that the selfish-goal effect is not limited to social judgments: one's time and money are more likely to be donated to a stranger requesting help if one is currently involved in helping someone else (Experiment 3). These are costs that one would not choose to incur were it not for this unintended influence of the active goal (as shown by the control and deactivated-goal conditions of that study).

The present results support the hypothesis that goals, once activated, can operate independently and automatically of conscious awareness and purposes, and thus can yield

unintended consequences. This hypothesis was derived from theoretical principles as well as surprising empirical findings. The theoretical parents of the selfish-goal hypothesis are 'selfish-gene' theory (Dawkins 1976/2006) from evolutionary biology coupled with the widely-held view that motivations are the present-day agents of genetic influences from the distant past. Genes as the unit of natural selection pursue their own agenda (propagation) whether or not this is in the best interest of their host organism; similarly, goals (when active) as the proxies of genes guide human cognition and behavior towards the goals' desired end-states, independently of conscious awareness and guidance by the individual.

The surprising empirical evidence that led to the selfish-goal hypothesis was the discovery of the nonconscious mode of goal pursuit (e.g., Bargh & Gollwitzer, 1994) with the associated findings of goals becoming active and operating entirely outside of conscious awareness and guidance, yet producing the same outcomes, and by all appearances in the same manner, as when those same goals are pursued consciously (see Bargh, 2005; Chartrand & Bargh, 2002). The fact of nonconscious goal pursuit is clear and strong support for the selfish-goal principle; the present experiments were designed to extend that logic to the case of consciously pursued goals. The findings of these experiments indeed show that even consciously pursued goals have unintended consequences, as when they operate on unintended targets. As the control conditions of Experiments 1 and 2 confirmed, we do not normally find rude, aggressive people likeable – but we do if rude and aggressive behavior are what we are hoping to find *in someone else at the time*; similarly, as confirmed by the two control conditions of Experiment 3, we do not normally agree to donate much of our time and money to strangers or new causes – but we do if we are currently involved in *helping someone else.*

We believe that the present findings, and the selfish-goal principle generally, have important practical implications. To illustrate, imagine that you work in a highly competitive atmosphere, such as a Wall Street investment bank, in which it pays to be a ruthless workaholic. At the office you may come to value and appreciate those who possess these traits as they are great team players and help the work-group attain the group goals. To what extent might the professional goal influence evaluations of co-workers and others for unrelated purposes, such as seeking a romantic partner? It is probably not in your best interests to evaluate a romantic partner along dimensions relevant to the stock trader, yet according to the present hypotheses and findings, you may well positively evaluate someone who has qualities such as competitive, tough, serious, and hard-working – and then act on this evaluation (e.g., ask him or her out on a date), even though you would not consciously and intentionally like and choose such a person under normal circumstances.

Or, to take another (behavioral) example, imagine a thrifty person who usually does not like to spend money on himself, but finally heads to the mall to buy some much-needed new clothes. The active "purchasing" goal may cause this normally spendthrift individual to 'go crazy' buying many other things for himself as well, such as CDs, books, even furniture. Such a phenomenon has been described recently by Dhar, Huber, and Khan (2007) as "shopping momentum", to which the selfish-goal effect would seem a likely contributor if not the main underlying mechanism.

One important direction for further research on unintended goal effects is whether chronically used goals come to behave in the same way as currently active goals, inasmuch as selfish-goal effects are concerned. In the case of trait construct accessibility effects on social judgment, chronically accessible trait constructs have been found to show the same effects as

temporarily active constructs, even though in those studies the chronically used constructs were not recently primed or active (Bargh, Bond, Lombardi, & Tota, 1986; Bargh, Higgins, & Lombardi, 1988). To take the "Wall Street" example from above, it is possible that someone who works in a context where aggressiveness and obsession with work are valued highly will come to positively evaluate neighbors, potential friends, and romantic partners along those same lines, even outside of the work setting (e.g., in social settings after work). Consistent with this possibility, DeVoe and Pfeffer (2007) have shown recently that people who get paid by the hour (i.e., an hourly wage, as opposed to a fixed salary) come to chronically evaluate their free time as well in terms of "time is money" (e.g., anxiously checking their watches while attending their child's Saturday soccer game), producing tendencies towards workaholism (desires to turn all available hours into money) to which salaried employees are less vulnerable.

In summary, both conscious and unconscious goal pursuit produce judgmental and behavioral outcomes that one does not consciously intend and might well seek to avoid if aware of them. Goals, conscious and unconscious alike, are the local agents of genes, their instantiation in present time. Therefore, just as the selfish gene operates to further its own agenda independently of the interests of its host organism (for the gene, not the organism, is the unit of natural selection; see Dawkins 1976/2006; Dennett, 1995), the selfish goal has only its attainment 'in mind' and not the overall interests of the goal-holder. Based on this *selfish-goal principle*, we have hypothesized and shown in three experiments that conscious goal pursuit spills over to unintended targets and thus produces unintended judgmental and behavioral outcomes. Perhaps we should all take the old adage to heart, and be a bit more careful what we wish for.

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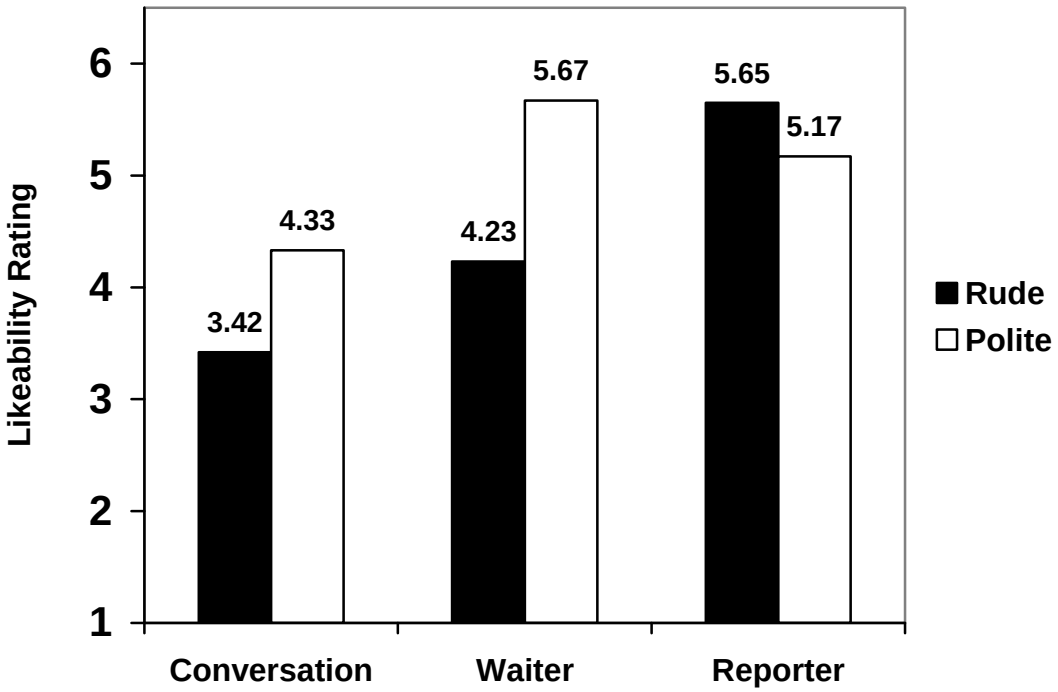
Figure Captions

Figure 1. Mean likeability scale ratings (1=not at all likeable; 9= very likeable), Experiment 1, by evaluative goal and target behavior.

Figure 2. Mean liking of incidental target person, from open-ended target descriptions (1=extremely dislike; 10= extremely like), Experiment 2, by evaluative goal and target behavior.

Figure 3. Mean amount of intended donation to alumni association (3A) and time commitment to honors research project (3B), Experiment 3, by goal condition.


Likeability Rating
6
5
4
3
2
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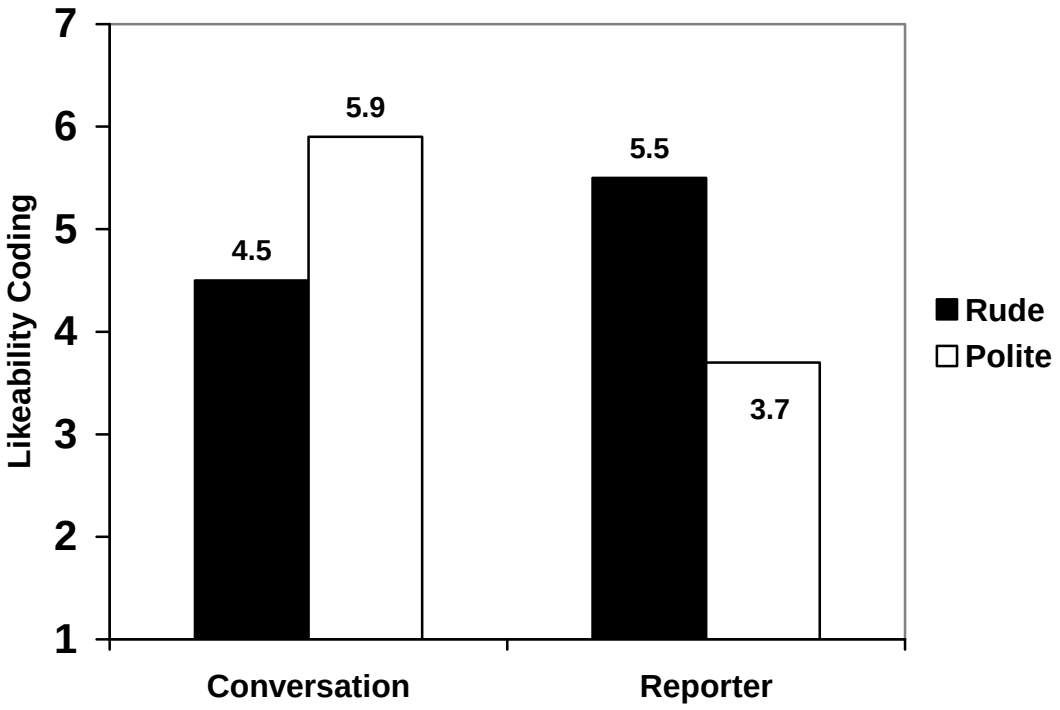
4.33
4.23
5.67
5.65
5.17
Conversation
Waiter
Reporter
Rude
Polite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Likeability Coding
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Conversation
Reporter
Rude
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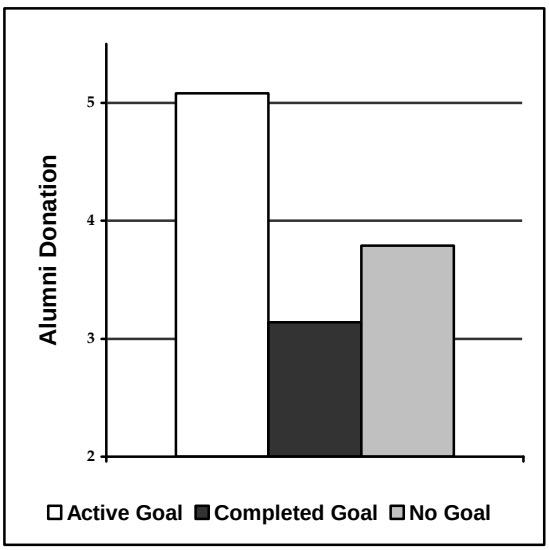
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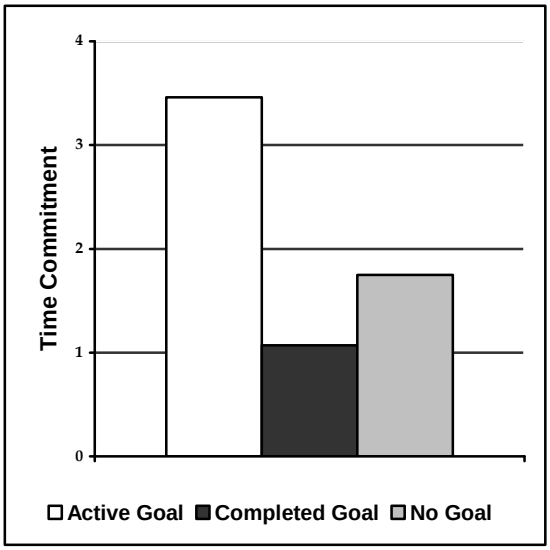
4
3
2
Active Goal
Completed Goal
No Goal


Time Commitment
4
3
2
1
0
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No Goal