The Joint Effects of Target and Purpose Goals on Intrinsic Motivation: A Mediational Analysis

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To test Harackiewicz and Sansone’s prediction that task-specific target goals would enhance intrinsic motivation when they were congruent with higher order purpose goals, we varied performance and mastery-oriented target goals in neutral and performance-oriented purpose goal contexts and included a no-goals control group. Results provided strong support across three measures of intrinsic motivation, indicating that performance target goals undermined interest relative to mastery target goals in a neutral context but that performance target goals enhanced intrinsic motivation relative to mastery target goals in performance purpose goal contexts. Process analyses revealed that competence valuation and task involvement mediated these effects.

When people sit down with a crossword puzzle or stand at a pinball machine, ready to play, they often have multiple goals for their behavior. Some of these goals may be fairly general and concern the reason for task engagement (i.e., to show off for friends or simply to take a break and relax), whereas other goals may be more specific to the task at hand (i.e., to solve a particular clue in the puzzle or outscore a friend on the first ball in the pinball game). Whether general or specific, the goals that individuals pursue in a particular situation influence the way that they approach and experience activities. Our goal in the present research was to examine the joint effects of general and specific goals on intrinsic motivation—the enjoyment of and continued interest in activities (Deci & Ryan, 1985; Lepper, 1981).

A clear understanding of the effects of goals on intrinsic motivation requires an examination of the effects of specific goals adopted by an individual within the context of his or her more general goals. It also requires consideration of the processes by which these goals (in concert) affect intrinsic motivation. Harackiewicz and Sansone (1991) have proposed a process model of intrinsic motivation that focuses on the types of goals individuals pursue while performing enjoyable activities and the motivational processes that mediate the effects of goals on continuing interest. They identify two levels of goals most relevant to an individual’s performance of an activity at a particular point in time: higher level purpose goals and task-specific target goals (cf. Ford, 1992; Maehr, 1989). Purpose goals represent the reason for task engagement or what an individual is trying to accomplish in a situation (e.g., to become familiar with a new activity, to outperform others on it) (Harackiewicz & Elliot, 1993; Sansone, Sachau, & Weir, 1989). Target goals, in contrast, provide relatively concrete guidelines for particular actions in a situation. They are specific to the activity at hand and have clear behavioral referents (e.g., solve a particular clue in the crossword puzzle, aim

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for a bumper on the pinball machine) (Elliot & Harackiewicz, 1994; Locke & Latham, 1990; Manderlink & Harackiewicz, 1984). In other words, purpose goals suggest the "why" for performing a behavior and target goals provide the "how" (Martin & Tesser, 1989).

The Harackiewicz and Sansone (1991) model emphasizes the interplay between the purpose and target goals that individuals adopt at the outset of task engagement. Purpose goals frame the activity, and target goals guide behavior throughout the course of task performance. Purpose goals establish a motivational context that affects how people perceive and respond to the target goals they pursue and the feedback they receive during the process and at the conclusion of task engagement. For example, a golfer might have specific target goals (expressed as strokes) for each hole of golf that he or she plays. The golfer might aim for par on each hole, to surpass a friend's score, or to better his or her own previous score. As the golfer proceeds through the course, he or she receives ongoing feedback about his or her progress toward these goals. Harackiewicz and Sansone argue that the effects of target goals and feedback will depend on the higher order purpose goals adopted in the situation. Is the golfer's purpose in playing to relax on a Sunday afternoon or is he or she trying to win a competition?

According to the model, a key determinant of intrinsic motivation is the congruence between individuals' purpose and target goals. Goals at these two levels are congruent (or match) when they are both oriented toward the same end state (e.g., competence at an activity, task familiarity) and intrinsic motivation should be optimized when target goals facilitate attainment of the initial purpose goal held by the individual. This framework is in accord with that of control theorists who argue that behavior is optimally regulated when lower order standards facilitate the attainment of higher level standards (Carver, Lawrence, & Scheier, 1996; Carver & Scheier, 1981, 1982; Hyland, 1988). Similarly, Ford (1992) suggests that lower level goals can mark progress toward an overall goal within the context of a situationally specific behavioral episode, promoting a sense of mastery. According to these perspectives, we might also expect goal matching to facilitate intrinsic motivation. Specifically, when congruent with higher order purpose goals, target goals can guide behavior and foster task involvement, goal attainment, and satisfaction (Ford, 1992; Harackiewicz & Sansone, 1991; Sansone & Harackiewicz, 1996). For example, for persons who hold the purpose goal of demonstrating their pinball competence to friends, the specific target goal of scoring 5,000 more points than a friend did on the first ball is consistent with their purpose goal, and it provides a specific criterion that can help them to focus their attention on performing well and draw them into the game, making it more enjoyable.

Types of Goals and Intrinsic Motivation

In addition to examining goals at different levels, researchers have also differentiated between the types of goals that individuals pursue at each level (Cantor & Zirkel, 1990). For example, purpose goals may or may not emphasize competence. That is, an individual's reason for engaging in an activity may be essentially neutral with respect to ability issues (e.g., to become familiar with the task, to relax), or competence may be a central focus of task engagement. A golfer may play a round of golf to relax or he or she may play to achieve a certain level of competence at the game. Competence can be defined in various ways, and goal theorists have differentiated two primary types of competence-relevant goals: performance achievement goals, which focus on the demonstration of ability and define competence normatively, and mastery achievement goals, which focus on the development of ability and define competence self-referentially (Ames & Archer, 1988; Dweck & Leggett, 1988; Nicholls, 1989). The golfer who is playing to achieve competence may be trying to outperform his or her friends (a performance goal) or the golfer may be trying to improve his or her game (a mastery goal). Many theorists have argued that performance goals should undermine intrinsic motivation by creating evaluative pressure and performance anxiety, whereas mastery goals should foster intrinsic interest by promoting effort and challenge seeking (Butler, 1987; Dweck, 1985; Heyman & Dweck, 1992).

Although performance goals have, on occasion, been shown to reduce interest relative to mastery goals or a neutral control condition (e.g., Butler, 1987; Ryan, 1982), other experiments reveal a more complex pattern of results (see Elliot, 1994, for a review of this literature). Specifically, researchers have found that purpose goals interact with other elements of the achievement setting or with personality variables to influence intrinsic motivation. Such findings suggest that the effects of purpose goals on intrinsic motivation depend on their congruence with situational factors encountered during the process of task engagement or with personality variables (Butler, 1992; Epstein & Harackiewicz, 1992; Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997; Koestner, Zuckerman, & Koestner, 1987; O'Connor & Vallerand, 1994; Sansone et al., 1989; Sansone & Voisard, 1994). For example, Harackiewicz and Elliot (1993) found that the effects of purpose goals were moderated by individual differences in achievement orientation; that is, performance goals actually enhanced intrinsic motivation for achievement-oriented individuals.
Although the performance/mastery distinction was originally developed in reference to purpose goals, it is clearly relevant at the target goal level as well (i.e., task-specific goals can reflect normative standards or personal improvement). To our knowledge, however, only one study has investigated the performance/mastery distinction at the target goal level. Elliot and Harackiewicz (1994) found that performance-oriented target goals undermined intrinsic motivation for a pinball game relative to mastery-oriented target goals of comparable difficulty. However, this result was also qualified by an interaction with achievement orientation, suggesting that the negative effect of performance target goals was most pronounced for individuals who were low in achievement motivation. These findings were obtained in a neutral context in which purpose goals were not specified or manipulated. In sum, in addition to the type of purpose or target goal pursued in a particular situation, a matching process appears to be an important determinant of intrinsic motivation (Higgins & Trope, 1990; Sansone & Harackiewicz, 1996). In the present experiment, we sought to extend the study of target goal effects on intrinsic motivation by examining a type of match that has not yet been tested—the match between target goals and the general context established by purpose goals.

Potential Mediators of Goal Effects on Intrinsic Motivation

In addition to documenting the joint effects of purpose and target goals, it is also important to consider the processes through which these goal structures affect intrinsic motivation. By measuring process variables, we can better understand why a match between goals might optimize intrinsic motivation. Harackiewicz and Sansone (1991) identified three motivational processes particularly relevant to goal effects on interest: perceived competence, competence valuation, and task involvement. Although perceived competence has been identified as a mediator of the development of interest (Bandura & Schunk, 1981), Harackiewicz (1989), Harackiewicz, Manderlink, and Sansone (1992), and Sansone and Manderlink (1995) have demonstrated that other motivational processes—specifically, competence valuation and task involvement—play a more critical role once intrinsic motivation has been established.

Figure 1 shows a schematic version of the Harackiewicz and Sansone (1991) process model. The "A" paths show the direct effects of purpose and target goals on intrinsic motivation, and the "A*" path shows that purpose goals are hypothesized to moderate the effects of target goals, as discussed previously. The "B" paths show the effects of purpose and target goals on the three hypothesized mediators, and the "B*" path shows that purpose goals moderate the effects of target goals on these process variables. Finally, the "C" path represents the mediation effects, such that the hypothesized mediators affect intrinsic motivation.

Competence valuation reflects an affective commitment to performing well and is typically measured in terms of how much individuals care about doing well at an activity. A number of experiments have demonstrated that external constraints can enhance participants' valuation of competent performance in a situation (Epstein & Harackiewicz, 1992; Harackiewicz & Manderlink, 1984; Sansone, 1989). In turn, competence valuation has been shown to enhance subsequent intrinsic interest, thereby mediating the direct effects of constraints on intrinsic motivation (Harackiewicz & Manderlink, 1984; Sansone, 1989).

Task involvement represents the degree to which an individual concentrates on and becomes absorbed in an activity (Csikszentmihalyi, 1978; Koch, 1956). Locke and Latham (1990) propose that task-specific goals can help individuals to remain focused on a task, leading them to discover the pleasurable aspects of the activity. Some studies have revealed positive relationships between task involvement and task interest (Bryan & Locke, 1967; Harackiewicz et al., 1987; Harackiewicz, Manderlink, & Sansone, 1984), and recent studies have documented...
the meditational effect of task involvement on intrinsic motivation (Elliot & Harackiewicz, 1994; Sansone et al., 1989).

Competence valuation and task involvement represent two motivational processes through which individuals can become more interested in an activity. When people care about playing well at golf, they are more likely to notice and appreciate their competence, and when they become immersed in the game, they are more likely to discover and appreciate the pleasurable aspects of the activity. Therefore, we predict that the individual's affective commitment to the pursuit of competence at the outset of task engagement (competence valuation) and absorption during task engagement (task involvement) should enhance subsequent intrinsic motivation. These processes may operate in a sequential fashion, such that individuals committed to the pursuit of competence at the outset of an activity are especially likely to become involved during the process of task performance. In other words, when someone doing a crossword puzzle cares about doing well, they may become more focused on finding solutions and get caught up in the puzzle, and this greater involvement may lead to higher levels of task enjoyment. Assigned target goals are task-specific challenges coupled with objective criteria for evaluation that enable individuals to concentrate on their performance and monitor progress throughout task engagement. As such, they may promote both competence valuation and task involvement processes, especially when they are congruent with their higher order purpose goal.

The Present Research

Researchers to date have examined goal effects on intrinsic motivation at either the purpose or the target goal level. In the present experiment, we sought to test the matching hypothesis that target goals should be most effective in promoting intrinsic motivation when they are congruent with higher order purpose goals. Specifically, we varied performance and mastery goals at the target level and observed their influence on intrinsic motivation in two purpose goal contexts—neutral (the context in which most previous target goal research has been conducted) and performance. Although Elliot and Harackiewicz (1994) found that performance target goals undermined intrinsic motivation relative to mastery target goals, this decrement was evidenced in a setting that, until the target goal manipulation, had minimized competence concerns (i.e., a neutral purpose goal context). In the present experiment, we hypothesized that performance target goals could maintain or even enhance intrinsic motivation in certain settings, namely those that instantiate a performance

purpose goal context. Therefore, we predicted that performance target goals would undermine intrinsic motivation relative to mastery target goals in the neutral purpose goal context (replicating Elliot & Harackiewicz, 1994) but that performance target goals would enhance intrinsic motivation relative to mastery target goals in the performance purpose goal context.

We also measured individual differences in achievement orientation to examine whether the predicted goal effects would be moderated by individuals’ characteristic motivational orientation. Although our previous research on goals at the purpose level or target level identified achievement orientation as an important moderator variable (Elliot & Harackiewicz, 1994; Epstein & Harackiewicz, 1992; Harackiewicz & Elliot, 1993), we predicted that situational factors would have a more powerful effect than personality variables in this experiment because goals were simultaneously manipulated at two levels creating a strong situation (Mischel, 1990). In addition, we measured perceived competence, competence valuation, and task involvement throughout the course of the experimental session to examine the processes through which goals affect intrinsic motivation. We predicted that competence valuation and task involvement would mediate the joint effects of purpose and target goals on intrinsic motivation.

METHOD

Overview

This experiment was designed to investigate the effects of target and purpose goals on intrinsic motivation for pinball, an activity that university undergraduates find enjoyable and on which they value competence (Harackiewicz & Elliot, 1993). Participants were randomly assigned to one of five experimental conditions in a 2 (purpose goal: neutral vs. performance) × 2 (target goal: performance vs. mastery) between-participants design with an appended control group. Prior to playing two games of pinball, a neutral or performance purpose goal context was established, and participants were assigned either performance or mastery target goals or not assigned a target goal. A control group received no target goals in a neutral context. Process measures were collected before, at the midpoint, and at the conclusion of task engagement. Experimental control of performance ensured that all participants met their target goals and attained comparable scores. A behavioral indicator of intrinsic motivation was collected during a free-choice period; self-report measures of task enjoyment and behavioral inclination were obtained immediately thereafter.
Participant Selection

Several hundred university undergraduates completed a series of questions regarding their pinball experience and an achievement orientation measure as part of an introductory psychology survey. Individuals who had never played pinball were deemed ineligible for recruitment. Participants were randomly selected from the pool of eligible recruits and blocked on achievement orientation. A total of 110 participants (54 males and 56 females) received extra credit in return for their participation.

Procedure

Two laboratory assistants conducted each experimental session. One assistant (henceforth the observer) greeted the participant in a waiting room and explained that the laboratory was running behind schedule so he or she would conduct the session until the experimenter became available. As the observer escorted the participant from the waiting room to the experimental laboratory, he or she verbally administered the purpose goal manipulation. In the neutral purpose goal condition, participants were told the following:

What we are interested in is student’s reactions to games and leisure activities. We’re getting students with different levels of pinball experience and collecting data on what they think of our pinball machines.

In the performance purpose goal condition, participants were informed of the following:

What we are interested in is how well students play pinball compared to others. We’re getting students with different levels of pinball experience and collecting data on how well they play compared to others.

Participants then entered the experimental laboratory, which was set up as a game room containing an assortment of puzzles, toys, and magazines as well as the Jungle King pinball machine. They read and signed a consent form that included a restatement of the purpose goal manipulation and a question regarding prior pinball experience. In addition, they were asked to indicate the general purpose of the experiment, thereby providing a check on the purpose goal manipulation. The observer then started to leave the room to “check on the experimenter” just as the second assistant (henceforth the experimenter), who had been waiting outside the door, arrived. The observer exited and the experimenter (blind to purpose goal condition) introduced himself or herself to the participant and continued the experimental session.

After a brief introduction to the pinball game, participants played two practice balls. The experimenter then informed the participant that the rest of the instructions for the session were tape-recorded for standardization purposes. He or she proceeded to consult the prior pinball experience question from the consent form and provided the participant with a tape and folder of forms that (ostensibly) corresponded to the participant’s experience level. The experimenter started the tape recorder and exited the room (thereby remaining blind to both purpose and target goal condition).

The first part of the tape contained the experimental manipulation of target goals. Participants in all conditions heard, “In today’s session you will play two games of pinball.” Participants in target goal conditions were also given specific goals for their two games of pinball. Participants assigned performance target goals were given the following information:

We’d like you to pursue a performance goal for each game. We have selected these goals on the basis of prior testing of students with your level of pinball experience. So, these goals can give you a good sense of your pinball playing ability. The goals represent the 65th percentile score for students with your level of pinball experience. For the first game, your goal is 29,750 points. Only 35% of students were able to attain this score on their first game of pinball on this machine. Your goal for the second game is 31,430 points.

Mastery target goal participants were given the following instructions:

We’d like you to pursue a moderately challenging goal for each game. We have selected these goals on the basis of prior testing of this particular pinball machine. These goals have been selected for students with your level of pinball experience. So, these goals can help you develop your skills on this pinball machine and gauge your progress. For the first game, your goal is 29,750 points. For someone with your level of pinball experience, this score represents a moderately challenging goal for this machine. Your goal for the second game is 31,430 points.

Thus, we used the same absolute standards for both types of target goals (29,750 and 31,430 points for Games 1 and 2, respectively) but varied whether the goals emphasized normative or self-referential definitions of competence.

All participants were then instructed to take the scoring record from their folder and place it on a clipboard next to the pinball machine. For target goal participants, the point value of both target goals was printed on this form to further instantiate the experimental manipulation. Participants subsequently completed a question-
naire consisting of a target goal manipulation check as well as items regarding the importance of doing well (competence valuation), their performance expectations, and, for participants in target goal conditions, a question about their goal-attainment expectations. When finished, the participant opened the door to the hallway to inform the experimenter that he or she was done. The experimenter returned to the room and the participant began his or her first game of pinball, which consisted of five balls to play. In between games, participants responded to a series of questionnaire items concerning their thoughts during the first game and their current perceptions of competence.

To control performance, the pinball machine had been reprogrammed to enable covert manipulation of the point values of various components of the game. The observer (blind to target goal condition) sat in an adjoining room behind a concealed one-way mirror and monitored each ball, manipulating the point values as necessary. Observers were trained to keep scores approximately 5,000 points above the target value (29,750) for Game 1 (\(M = 33,231.76, SD = 2,957.15\)) and approximately 6,000 points above the target goal (31,430) for Game 2 (\(M = 37,474.75, SD = 3,377.95\)), ensuring that all participants attained their target goals. On completion of each game, participants recorded their game totals on their scoring record. No participant expressed suspicion about the scoring of the two games.

At the conclusion of Game 2, target goal participants were provided with a feedback form corresponding to their condition. Performance target goal participants read the following:

Now you can evaluate your ability on this pinball game. By comparing your scores to your goals, you can learn whether your performance matched or surpassed the 65th percentile score for students at your level of pinball experience.

Mastery target goal participants read the following:

Now you can evaluate your level of mastery on this pinball game. By comparing your scores to your goals, you can learn whether you did well and made progress toward mastering this pinball game.

As the second game was ending, the experimenter opened a folder that indicated the participant’s purpose goal condition. After the second game, the experimenter collected the participant’s scoring form and proceeded to provide positive verbal feedback to participants in the performance purpose goal conditions. Neutral purpose goal participants were told, “OK, now I’ve got your scores”; in addition to this, the performance purpose goal participants were told, “You know, these are good scores compared to what I’ve seen from other students so far.”

The experimenter then glanced at his or her watch and hurriedly announced that he or she would have to leave for a few minutes to check on another participant. Participants were informed that they could do whatever they desired until the experimenter returned. During this free-choice period, the amount of time participants played pinball was recorded by the observer. The experimenter returned after 5 minutes and presented the participant with a final questionnaire consisting of items concerning perceived competence, enjoyment, and behavioral inclination.

**Measures**

**Achievement orientation.** The 16-item Achievement Orientation subscale of the Personality Research Form (Jackson, 1974) was employed as a measure of achievement motivation. This scale was developed according to Murray’s (1938) theory of needs and was constructed to represent a broad unitary conceptualization of achievement motivation. Numerous empirical investigations have attested to the reliability and validity of this instrument (e.g., Fineman, 1977; Fiske, 1973; Harper, 1975).

**Process and perceived performance measures.** Prior to playing their first game of pinball, all participants reported their competence valuation (“How important is it to you to do well on these games today?”) and anticipated performance (“How well do you think you will do today?”) on a Likert-type scale ranging from 1 (not at all important/well) to 7 (very important/well). Target goal participants also responded to a goal attainment expectations item (“How likely do you think it is that you will meet these goals?”) on a Likert-type scale ranging from 1 (not at all likely) to 7 (very likely).

Between Games 1 and 2, participants completed a questionnaire that assessed the frequency with which certain thoughts occurred to them as they played their first game. The questionnaire included a task involvement index (i.e., the average of the items “I was totally absorbed in the game while playing,” “I thought about things other than the game or the experiment while I was playing [reversed],” and “While playing, I concentrated on keeping the ball in play”). Participants responded on a Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). This index has been successfully employed in previous research on intrinsic motivation processes (Harackiewicz et al., 1987; Harackiewicz & Elliot, 1993). Participants also responded to a midgame perceived competence item (“How well do you think you did on your first game?”) on a scale ranging from 1 to 7.

At the conclusion of the experiment, participants completed a final questionnaire that contained a post-
game perceived competence measure ("I did very well at this game"). Participants indicated their level of agreement on a scale ranging from 1 to 7. The pinball scores attained were represented by three measures: first game total, second game total, and final total (i.e., the sum of the first and second game measures).

**Intrinsic motivation.** Three indicators of intrinsic motivation were employed. First, a behavioral measure consisted of the number of seconds that participants played pinball during the 5-minute free-choice period (time). Second, a self-report measure of task enjoyment consisted of participants’ ratings of five items on the final questionnaire (i.e., very interesting game, thought it was a waste of time [reversed], enjoyed the game very much, thought it was a boring game [reversed], fun to play) (α = .88, enjoyment). Ratings were indicated on a Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). Finally, a self-report measure of behavioral inclination was obtained at the end of the final questionnaire. Participants were asked, “Did your experience on the two games of pinball today make you want to play more pinball? (Yes or No)” (play).5

**RESULTS**

**Overview of Analyses**

Multiple regression analyses were conducted to investigate the effects of the predictor variables on the intrinsic motivation indexes and to test for mediation of these direct effects. The basic model employed in these analyses comprised a set of orthogonal contrasts (purpose goal type: performance −1, appended control 0, neutral +1; target goal type: performance −1, appended control 0, mastery +1; target goal: appended control [no target goals] −4; target goals +1): the Purpose Goal Type × Target Goal Type interaction product term, achievement orientation (measured continuously), three interaction product terms involving achievement orientation, and one covariate—the main effect of gender (males −1, females +1).6 Thus, the basic model consisted of 10 terms: 5 mean-deviated main effects (purpose goal type, target goal type, target goal, achievement orientation, and gender), 4 two-way interactions (Purpose Goal Type × Target Goal Type, Achievement Orientation × Purpose Goal Type, Achievement Orientation × Target Goal Type, and Achievement Orientation × Target Goal), and 1 three-way interaction (Achievement Orientation × Purpose Goal Type × Target Goal Type).

We first analyzed the direct effects on the intrinsic motivation and process measures and then examined whether the process measures mediated the direct effects on intrinsic motivation. Interpretation of significant interaction effects involving achievement orientation (a continuous variable) was facilitated by the generation of predicted values (̂s) from the regression equations (using the unstandardized b coefficients for the relevant groups and representative high and low achievement-orientation scores, which were one standard deviation above and below the mean) (Cohen & Cohen, 1983). Means are presented for effects that only involved discrete variables.

**Preliminary Analyses**

**Goal perceptions.** To determine whether performance and mastery target goals were perceived to be of equivalent difficulty, we regressed goal-attainment expectations on a truncated basic model that excluded the target goal main effect and Achievement × Target Goal interaction. No significant effects were obtained in this analysis, suggesting that the two goal types were indeed perceived to be of similar difficulty. We also regressed anticipated performance (which we collected from all participants) on the full basic model and found a significant main effect of target goal, F(1, 99) = 37.96, p < .001. Participants who were assigned target goals were expected to perform better (M = 4.80) than those who were not assigned target goals (M = 3.13). A significant main effect of purpose goal type, F(1, 99) = 4.64, p < .05, indicated that participants in performance purpose goal contexts (M = 4.61) expected to perform more poorly than participants in neutral purpose goal conditions (M = 5.00). This effect was qualified by a significant Achievement × Purpose Goal Type interaction, F(1, 99) = 7.59, p < .01, suggesting that the effect was most pronounced for individuals who were low in achievement orientation and who expected to perform more poorly in the performance purpose goal context (̂ = 4.23) than in the neutral context (̂ = 5.39). In contrast, achievement-oriented participants showed comparable levels of performance expectations in the two contexts (̂ = 4.83 in the performance purpose goal context and ̂ = 4.69 in the neutral context).

**Pinball scores.** All target goal participants successfully attained their goals, scoring more than 29,750 and 31,430 points on Games 1 and 2, respectively. Although we controlled participants’ scores on the pinball games, there was some variability in the actual scores obtained. Therefore, we tested whether these scores varied by condition. We regressed the first game total, second game total, and final total separately on the basic model. These analyses failed to yield any significant differences in actual performance, attesting to the effectiveness of our experimental control of performance.

**Direct Effects: From the Predictor Variables to the Outcome Variables**

All three indicators of intrinsic motivation were significantly correlated. The average within-cell corre-
tions were as follows: time and enjoyment, \( r = .27, p < .01 \); time and play \( r = .23, p < .01 \); and enjoyment and play \( r = .19, p < .05 \). None of the correlations between measures of intrinsic motivation differed significantly between experimental conditions. Table 1 displays the means for time, enjoyment, and play in the five experimental target goal conditions.

The regression of time on the basic model yielded a significant effect for gender, \( F(1, 99) = 24.42, p < .01, \beta = -.43 \), such that males played more pinball during the free-choice period (\( M = 199.46 \)) than females (\( M = 83.91 \)). A significant Purpose Goal Type \( \times \) Target Goal Type interaction, \( F(1, 99) = 6.10, p < .05, \beta = .22 \), indicated that target goals affected intrinsic motivation differently under the two purpose goal contexts. The pattern of means (see Table 1) suggest that in the neutral purpose goal context, mastery target goals facilitated free-choice play, relative to both performance target goals and the appended control. However, in the performance purpose goal context, performance target goals increased free-choice play relative to mastery target goals and the appended control.

Regressing enjoyment on the basic model yielded a significant Purpose Goal Type \( \times \) Target Goal Type interaction, \( F(1, 99) = 6.25, p < .05, \beta = .24 \). As displayed in Table 1, the means indicate that in a neutral context, participants reported higher levels of enjoyment when assigned mastery target goals, relative to performance target goals and the appended control. In the performance purpose goal context, on the other hand, performance target goals appeared optimal for enjoyment, relative to mastery target goals and the appended control.

The regression of play on the basic model revealed a significant Purpose Goal Type \( \times \) Target Goal Type interaction, \( F(1, 99) = 5.73, p < .05, \beta = .23 \). The means (displayed in Table 1) reveal a pattern similar to that demonstrated on time and enjoyment. Mastery target goals led to stronger behavioral inclinations in the neutral purpose goal context, relative to the performance purpose goal context and to the appended control. Performance target goals increased the desire to play in the performance purpose goal context, relative to the neutral context. No other effects were significant on any of the three outcome measures.

**Direct Effects: From the Predictor Variables to the Process Variables**

**Competence valuation and task involvement.** Regressing competence valuation on the basic model revealed a significant target goal main effect, \( F(1, 99) = 13.36, p < .001, \beta = .35 \), indicating that target goal participants valued competence more (\( M = 3.65 \)) than their counterparts without a target goal (\( M = 2.25 \)). The Purpose Goal Type \( \times \) Target Goal Type interaction also attained significance, \( F(1, 99) = 3.97, p < .05, \beta = .18 \). As displayed in Table 2, the means suggest that mastery target goals slightly enhanced competence valuation in the neutral purpose goal context, whereas performance target goals clearly raised competence valuation in the performance purpose goal context.

The regression of task involvement on the basic model yielded a significant target goal main effect, \( F(1, 99) = 3.85, p = .05, \beta = .18 \). Target goal participants reported having task-related thoughts to a greater extent (\( M = 5.12 \)) than those who were not assigned target goals (\( M = 4.60 \)). A gender main effect, \( F(1, 99) = 4.21, p < .05, \beta = -.19 \), revealed that males reported more task thoughts (\( M = 5.25 \)) than females (\( M = 4.77 \)). The Purpose Goal Type \( \times \) Target Goal Type interaction also attained significance, \( F(1, 99) = 6.73, p < .05, \beta = .24 \). As displayed in Table 2, the means indicate that mastery target goal participants reported more task thoughts in the neutral context, whereas performance target goal participants experienced more task-related thoughts in the performance purpose goal context. No other effects were significant on either competence valuation or task involvement.

**Perceived performance.** Although we controlled actual performance and found no significant effects on the pinball scores obtained by participants, we did find significant effects on the perceived performance variables. Target goal participants reported higher perceptions of competence than their no target goal counterparts at both midgame, \( F(1, 99) = 43.56, p < .001 \), and postgame \( F(1, 99) = 35.50, p < .001 \), assessments (\( M_b = 4.69 \) vs. \( 2.75 \) and \( 4.42 \) vs. \( 2.67 \), respectively). In addition, females reported higher levels of midgame perceived compe-

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**Table 1: Means for Time, Enjoyment, and Play as a Function of Condition**

<table>
<thead>
<tr>
<th>Purpose Goal</th>
<th>Performance</th>
<th>Mastery</th>
<th>No Target Goal (appended control)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutral control</td>
<td>115.95</td>
<td>174.81</td>
<td>112.25</td>
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<tr>
<td>Enjoy</td>
<td>4.68</td>
<td>5.43</td>
<td>4.69</td>
</tr>
<tr>
<td>Play</td>
<td>.29</td>
<td>.67</td>
<td>.88</td>
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<td>( n )</td>
<td>21</td>
<td>21</td>
<td>24</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance</th>
<th>Time</th>
<th>Enjoy</th>
<th>Play</th>
</tr>
</thead>
<tbody>
<tr>
<td>( n )</td>
<td>21</td>
<td>23</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Scores on time ranged from 0 seconds (did not play at all during the free-choice period) to 300 (played pinball during the entire 5-minute free-choice period). Enjoyment values could range from 1 (low enjoyment) to 7 (high enjoyment). Play represents the percentage of those who indicated that they would like to play more pinball.
TABLE 2: Means for Competence Valuation and Task Involvement as a Function of Condition

<table>
<thead>
<tr>
<th>Purpose Goal</th>
<th>Target Goal</th>
<th>No Target Goal (appended control)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Performance</td>
<td>Mastery</td>
</tr>
<tr>
<td>Neutral control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competence valuation</td>
<td>3.38</td>
<td>3.71</td>
</tr>
<tr>
<td>Task involvement</td>
<td>4.90</td>
<td>5.27</td>
</tr>
<tr>
<td>Performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competence valuation</td>
<td>4.24</td>
<td>3.30</td>
</tr>
<tr>
<td>Task involvement</td>
<td>5.65</td>
<td>4.70</td>
</tr>
</tbody>
</table>

NOTE: Scores on both competence valuation and task involvement had a possible range of 1 (low) to 7 (high).

tence ($M = 4.46$) than males ($M = 4.06, F(1, 99) = 4.13, p < .05$). No other effects were significant on any perceived performance measures.

Mediation Analyses

Competence valuation and task involvement were hypothesized to mediate the direct Purpose Goal Type x Target Goal Type interaction effect on intrinsic motivation. Because we measured competence valuation before participants began playing but measured task involvement at the midpoint of task engagement, we tested a linked model that included the mediational effects of competence valuation on task involvement in the following causal sequence: independent variables ⇒ competence valuation ⇒ task involvement ⇒ intrinsic motivation. According to guidelines developed by Judd and Kenny (1981), empirical validation of a hypothesized process model entails satisfaction of two requirements beyond the demonstration of direct effects from the predictor variables to the outcome measures (already documented in this article). First, each variable in the causal chain must significantly affect the variable that follows it in the chain, with all variables prior to it controlled. Second, to complete the mediational chain, the proximal mediator must significantly affect the outcome variable, with all preceding mediators and the predictor variables controlled.

Independent variables to the mediators. The first link of this mediational model was validated by demonstrating a significant Purpose Goal Type x Target Goal Type interaction on competence valuation in the analysis described earlier. To test the competence valuation ⇒ task involvement link, task involvement was regressed on the basic model with competence valuation included. This regression yielded a significant effect for competence valuation, $F(1, 98) = 12.84, p < .001, \beta = .35$, indicating that participants who valued competence became more involved in the game. The Purpose Goal Type x Target Goal Type interaction effect was also significant, $F(1, 98) = 3.96, p < .05, \beta = .18$, but it was smaller than in the direct effects model reported earlier (in which $\beta = .24$), providing evidence that competence valuation partially mediated this direct effect on task involvement. In addition, competence valuation partially mediated the direct effect of target goals on task involvement, which was not significant in this model. The reduction in effect size from the direct effects model, in which the $\beta$ for the main effect of target goals was .18, to a $\beta$ of .07 provides additional support for mediation. In other words, both of the direct effects on task involvement (the target goal main effect and the Purpose Type x Target Goal Type interaction) were partially mediated by competence valuation.

Mediators to outcome variables. To test the final link in the mediational chain, each outcome measure was separately regressed on a 12-term model that was composed of the basic model, competence valuation, and task involvement. Regressing time on this final mediational model yielded a significant effect for task involvement, $F(1, 97) = 13.05, p < .001, \beta = .34$, indicating that participants who were more task involved during the experimental session were more likely to play pinball during the free-choice period. The direct effect of gender remained significant on time, $F(1, 97) = 19.04, p < .001$; males played more pinball during the free-choice period than females. However, the Purpose Goal Type x Target Goal Type interaction was not significant in the final mediational model ($\beta = .15$). Moreover, this reduction in effect size from the direct effects model (in which $\beta = .22$) provides evidence for task involvement as a proximal mediator of the direct Purpose Goal Type x Target Goal Type interaction effect on time.

The regression of enjoyment on the final simple mediational model revealed a significant effect for task involvement, $F(1, 97) = 10.94, p < .01, \beta = .32$, such that participants who were more task involved during the game reported greater enjoyment afterward. Competence valuation was also a significant predictor of enjoyment in this model, $F(1, 97) = 5.74, p < .05, \beta = .24$, suggesting that both task involvement and competence valuation served as proximal mediators of the Purpose Goal Type x Target Goal Type direct effect on enjoyment. The direct Purpose Goal Type x Target Goal Type interaction effect was not significant in the final mediational model ($\beta = .11$), and this reduction in effect size from the direct effects model (in which $\beta = .23$) represents evidence that task involvement and competence valuation partially mediated the direct Purpose Goal Type x Target Goal Type effect on enjoyment.

Regressing play on the final simple mediational model yielded a trend for task involvement, $F(1, 97) = 2.50, p < .12, \beta = .17$, corresponding to that obtained on time and enjoyment. The direct Purpose Goal Type x
Target Goal Type interaction effect was somewhat reduced ($\beta = .18$; $\beta$ for direct effect = .23) and was no longer significant, supporting task involvement as a partial mediator of the direct Purpose Goal Type x Target Goal Type effect on play.\(^8\)

In sum, this linked mediation model nicely captures the processes that affect intrinsic motivation in this study. Participants were most likely to value competence when their target goals emphasized mastery in the neutral purpose goal context or when their target goals emphasized normative standards in the performance purpose goal context. They were also most likely to become task involved in these conditions. Competence valuation proved to mediate these effects on task involvement such that participants who cared more about doing well at the outset of task engagement became more involved in the game by the midpoint of play. In turn, higher levels of task involvement during performance promoted subsequent intrinsic motivation, as assessed by three separate indexes. In other words, competence valuation and task involvement mediated the direct effects of purpose and target goals on intrinsic motivation. Figure 2 presents the final path model for time, enjoyment, and play.

**Alternative Mediation**

Although theoretical considerations led us to focus on competence valuation and task involvement as mediators in the primary analyses, previous research has identified perceived competence as a mediator of goal effects (cf. Bandura, 1986). As reported earlier, however, regressing each of the three perceived competence measures (anticipated performance, midgame perceived competence, and postgame perceived competence) separately on the basic model failed to yield any significant effects that corresponded to the direct experimental effects on time, enjoyment, and play. Therefore, perceived competence failed to satisfy the first requirement established by Judd and Kenny (1981) for the demonstration of mediation, and we can conclude that neither variable mediates the direct effects observed in this study.

**DISCUSSION**

The results of the present experiment provide strong support for our prediction that the effects of performance and mastery target goals would differ as a function of the higher order purpose goals instantiated for an enjoyable pinball game. We found consistent results across three different measures of intrinsic motivation, indicating that mastery target goals enhanced intrinsic motivation relative to performance goals in a neutral purpose goal context. This result replicates our previous finding (Elliott & Harackiewicz, 1994) and supports the general prediction advanced by many goal theorists (e.g., Ames, 1992; Dweck, 1986; Heyman & Dweck, 1992) that mastery goals should be optimal for intrinsic motivation. However, we also found strong evidence that performance target goals enhanced intrinsic motivation relative to mastery target goals in a performance purpose goal context. This finding challenges the conventional wisdom that mastery goals will always be optimal. Considered together, these findings provide strong, direct support for our matching hypothesis that target goals are most effective when congruent with higher order purpose goals. Moreover, comparisons with the no-goals control group clearly indicate that intrinsic motivation was enhanced above baseline in the condition in which purpose and target goals were congruent, as predicted by the Harackiewicz and Sansone (1991) model. Thus, the focus of target goals seems less important than the contextual matching of goals in determining intrinsic motivation.

In addition to demonstrating the importance of goal matching, we also documented the processes that medi-
ated these direct goal effects on interest. Specifically, the provision of either performance or mastery target goals led participants to value competence more highly and become more involved in the game than in the no-goals control condition. This target goal effect was qualified by an interaction with purpose goals, indicating that performance target goals were especially effective in promoting both the competence valuation and task involvement process in the performance purpose goal condition, whereas mastery target goals had similar positive effects in the neutral purpose goal condition. Competence valuation and task involvement operated in sequential fashion to enhance intrinsic motivation so that participants who cared more about doing well at the outset of the activity reported higher levels of task involvement while playing pinball. In turn, higher levels of task involvement during the game promoted subsequent intrinsic interest in pinball. Thus, our analyses reveal an ongoing dynamic process through which participants first became effectively committed to and then cognitively involved in the pinball game, resulting in higher levels of subsequent intrinsic motivation.

These process analyses also provide some insight into how goal matching works to optimize intrinsic motivation. In the performance purpose goal/performance target goal condition, both the purpose goals and target goals were oriented toward the same type of normatively based competence. Although most theorists argue that performance goals at either level should undermine interest, we predicted that performance target goals would actually enhance intrinsic motivation if they were congruent with higher order purpose goals. In a context emphasizing ability assessment and normative comparison, target goals that provide specific normative standards can guide individuals toward their higher order goal of attaining competence. These specific goals may help people cope with what might otherwise be a threatening or stressful situation (cf. Pennebaker et al., 1990) and enable them to view the situation as one that affords a positive opportunity to strive for competence. In the context of a performance purpose goal, in which individuals are already thinking about their performance relative to others, performance target goals may be viewed as helpful guides rather than distracting or threatening intrusions. Thus, performance target goals may be optimal in promoting competence valuation, task involvement, and intrinsic motivation when higher order goals emphasize normatively based competence.

When target goals are incongruent with purpose goals, however, they should be less effective in promoting these processes. Even if the goals are not in direct conflict with one another, they orient the person in different directions (cf. Emmons & King, 1988). For example, in a neutral context in which ability issues are not salient, performance target goals that emphasize normative comparisons may be experienced as intrusive or distracting, if not threatening. In a performance-oriented context, mastery target goals may be equally distracting or perceived as irrelevant to the higher order goal. Our results indicate that performance target goals failed to promote competence valuation, task involvement, and interest in the neutral purpose goal conditions and that mastery target goals failed to enhance the same processes in the performance purpose goal contexts. Thus, the same target goals that proved so effective in one context failed to engage individuals when they were incongruent with purpose goals.

We tested the effects of mastery and performance target goals in neutral purpose goal conditions because that is the context in which most previous target goal research has been conducted. In neutral purpose contexts, there is likely to be considerable variability in the purpose goals spontaneously adopted by individuals. For example, individual differences in achievement orientation may affect the particular purpose goals adopted (cf., Elliot & Church, 1997; Harackiewicz et al., 1997). In general, however, when people approach an enjoyable, skill-based activity such as pinball, their purpose goal is most likely to become familiar with the game, explore and master the machine, and perhaps have fun (Harter, 1978; White, 1959). Although we would not characterize the mastery target goal as matching the neutral purpose goal to the same degree that the performance target goal matched the performance purpose goal, we believe that mastery target goals are consistent with a neutral purpose goal context and clearly inconsistent with a higher order performance purpose goal context. In other words, mastery target goals are, if not congruent, quite compatible with the purpose goals that might be spontaneously adopted in a neutral context, and we replicated our previous finding (Elliot & Harackiewicz, 1994) that mastery target goals could enhance intrinsic motivation in this context. The fact that mastery target goals had positive effects in this context, but not in the performance purpose goal context in which they were inconsistent with the higher order goal, supports our matching analysis (Harackiewicz, Barron, & Elliot, 1998).

Moreover, our mediation analyses suggest that intrinsic motivation was optimized through the same processes in the neutral and performance purpose goal contexts. Target goals that emphasize task mastery and personal improvement can help focus attention on developing competence and thus promote attainment of the general goals that may be operative in neutral contexts. Even if individuals do not have strong purpose goals as they begin an activity, they may become immersed in the pleasurable aspects of the game and enjoy the experience of improving their performance and mastering the
game as a result of working toward and attaining target goals. Our results suggest that mastery target goals may indeed be the ideal type of goal to guide performance, as postulated by many goal theorists (e.g., Ames, 1992; Dweck, 1986), but with an important qualification. Mastery target goals will only have these effects when they are compatible with the higher order goals held by the individual. In fact, they might be even more effective in contexts with an explicit mastery goal focus, but this particular form of the matching hypothesis awaits future research tests.

Comparisons with the no-goals control condition are critical in evaluating our results, and they clearly indicate that performance target goals promoted interest above baseline levels when they were congruent with purpose goals. Moreover, mastery target goals promoted interest above baseline in neutral conditions in which they were consistent with purpose goals. The fact that both pairings of goals were equally effective in raising intrinsic motivation above baseline levels suggests that there are multiple routes to the enhancement of interest. People can be drawn into an activity by the opportunity to develop their skills on a new pinball machine, and they can also be drawn into the activity as they strive to perform well relative to others. What seems to be most important is whether goals at two levels work together to promote affective and cognitive involvement in the activity. Our results contribute to a growing body of research that suggests that the individual's phenomenological experience while engaged in an activity is a critical determinant of subsequent intrinsic motivation (Sansone & Harackiewicz, 1996; Sansone & Morgan, 1992; Sansone et al., 1989).

In our previous work, we have suggested that performance goals are not as detrimental to intrinsic motivation as many theorists suggest, and we have shown that performance goals at the purpose (Epstein & Harackiewicz, 1992; Harackiewicz & Elliot, 1993) and target (Elliot & Harackiewicz, 1994) level can actually enhance intrinsic motivation for some individuals, notably those high in achievement orientation. In this study, we were able to document positive effects of performance goals for all participants, regardless of their level of achievement orientation. The fact that individuals who were low in achievement orientation were as likely as those who were high in achievement orientation to respond positively to the pairing of performance purpose and target goals in this study suggests that we were successful in creating a strong situation (Mischel, 1990) in which all participants were able to respond to the positive opportunities afforded by performance goals. It is important to note that we tested performance goal effects under optimal circumstances. Our performance purpose goal manipulation mentioned nothing about evaluation or feedback, and it was communicated by an individual whom participants never saw again. Thus, a subtle manipulation made normatively based competence salient without external pressure to perform well. Moreover, we controlled performance on the pinball game, ensuring that all participants attained their target goals and had positive performance experiences. We would not necessarily expect performance goals to have uniformly positive effects in the absence of these features. Perhaps the most important aspect of our findings is the demonstration that it is possible to significantly enhance intrinsic motivation in performance purpose goal contexts by providing individuals with specific goals that are consistent with the performance context established.

CONCLUSION

Goals can be conceptualized at various levels, from the highest order goals relevant to the self (e.g., ideal self or possible selves) (cf. Higgins, 1987; Markus & Ruvolo, 1989) to somewhat lower order goals that represent characteristic strivings across situations (e.g., personal project, life tasks, personal strivings) (cf. Cantor & Zirkel, 1990; Emmons, 1986; Little, 1989; Sheldon & Emmons, 1995) to the more situationally specific purpose and target goals considered in the present research. Researchers have contributed substantial theoretical and empirical work at each of these levels, but the research traditions within each level have remained relatively independent (Dweck, 1992; Hyland, 1988). More recently, researchers have begun to consider the hierarchical organization of personal goals (cf. Cantor, Norem, Niedenthal, Laugstom, & Brower, 1987; Emmons, 1999; Sheldon & Kasser, 1995) and have examined the structure and consequences of goals in hierarchical systems (e.g., Carver & Scheier, 1990; Pervin, 1989; Vallacher & Wegner, 1987, 1989). Our work begins to integrate the study of goals at the lower ends of the goal hierarchy and forges connections between the goal-setting (Locke & Latham, 1990), achievement goal (Ames, 1992; Dweck, 1986) and intrinsic motivation (Deci & Ryan, 1985; Lepper, 1981) literatures. Our results reveal the dynamic motivational processes engendered by goals at the purpose and target levels, and they bear testimony to the utility and importance of a hierarchical approach to goals and motivation.

NOTES

1. Theorists have labeled these goal orientations differently. For example, Dweck (1986) contrasts performance and learning goals but Ames and Archer (1988) argue that the terms performance and mastery best capture the theoretical convergence in the literature. Accordingly, we use the performance and mastery labels whenever we discuss achievement goals at the general conceptual level.
2. Coding of these open-ended responses revealed that all participants correctly stated the general purpose of the experiment.

3. To check on this manipulation, participants were instructed to indicate the point values for their two goals and what the goals represented. Coding of open-ended responses revealed that all participants answered both questions correctly.

4. Because observers could only adjust one component of the game, there was variability in actual scores obtained. Therefore, we will report analyses on performance measures.

5. Participants' responses to this behavioral inclination measure did not correspond directly to actual pinball play during the free-choice period. Of the 50 who did not play pinball during the free-choice period, 17 indicated that they wanted to play more pinball on the play item. Of the 60 who did play more pinball, only 36 reported that they wanted to play more pinball on the play question. Therefore, although the play variable was significantly associated with actual pinball play (chi square \(1\) = 7.38, \(p < .01, \phi = .26\)), play appears to represent a different aspect of intrinsic motivation.

6. Preliminary analyses failed to yield any significant interactions involving gender.

7. The only difference between this linked model and one in which the mediator variables in task involvement and task involvement in the regression on task involvement. We focused on the linked model in our analyses because it represents the temporal dynamics of the motivational processes with greater precision than a simultaneous model. Moreover, from an empirical standpoint, adding competence valence to the regression model on task involvement accounted for 10% more variance in task involvement \(R^2\) changed from .16 to .26, \(p < .05\).

8. Judd and Kenny (1981) identify a second type of mediational process in addition to the simple mediation tested here: interactional mediation. In this more complex form of mediation, at least one mediator interacts with the predictor variables in affecting a subsequent variable in the model. We also tested interactional mediation in the present analyses. An interactional mediation model was tested on task involvement by adding each of the Competence Valuation \(x\) Predictor Variable product terms to the simple mediational model reported previously. The resulting model comprised a total of 20 terms: 6 main effects, 2 four-way interactions \(4 \times \) Predictor Variable product terms, and 4 Competence Valuation \(x\) Predictor Variable product terms, and 6 higher way interactions (1 Predictor Variable product term and 5 Predictor Variable \(x\) Competence Valuation product terms), and 5 Predictor Variable \(x\) Task Involvement product terms, and 5 Predictor Variable \(x\) Task Involvement product terms). A final interactional mediation model was tested by adding each of the Task Involvement \(x\) Predictor Variable product terms to the final simple mediational models delineated previously. Thus, this model comprised 21 terms: 7 main effects, 2 four-way interactions \(4 \times \) Predictor Variable product terms, and 4 Task Involvement \(x\) Predictor Variable product terms, and 6 higher way interactions (1 Predictor Variable product term and 5 Predictor Variable \(x\) Task Involvement product terms interactions). No significant effects were revealed for any Task Involvement \(x\) Predictor Variable product term on any of the three indicators of intrinsic motivation. We also tested more complex interactional models that tested both sets of Competence Valuation and Task Involvement interaction terms simultaneously, but no significant interactions emerged. From the absence of significant effects in the interactional mediation analyses, it may be concluded that the simple mediation model reported in the text best represents the mediational processes in the present data.

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