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Situational and Personality Influences on Intrinsically Motivated Leisure Behavior: Interaction Effects and Cognitive Processes

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Intrinsic motivation in leisure activities has typically been viewed as being determined by factors in the social situation (e.g., extrinsic rewards, surveillance). However, it has been proposed that individual differences exist that make some people more likely to experience intrinsic motivation in their leisure regardless of the situation. In a laboratory experiment, 105 undergraduate students engaged in what was described as a leisure activity (puzzle game) under conditions that have been shown to foster (autonomy-supportive) or inhibit (controlling) intrinsic motivation. Prior to the experiment, Weissinger's intrinsic leisure motivation (ILM) personality scale was administered. With the use of hierarchical regression procedures, the ILM orientation was found to interact with the type of situation, and a facilitation–suppression *hypothesis was supported, suggesting that both person and situation factors need to be taken into account to understand a person's intrinsic motivation in a leisure activity. In the autonomy-supportive condition, the stronger the participants' ILM orientation, the higher their intrinsic motivation as reflected by more time spent playing the game in a free time period and higher levels of enjoyment. ILM orientation was unrelated to intrinsic motivation in the controlling condition. Structural equation modeling suggested that participants' cognitions of competence and playfulness–leisureliness during the game mediated the joint influence of ILM orientation and social situation on intrinsic motivation. The findings also provide evidence for the predictive and construct validity of the ILM scale.*

Keywords cognitive processes, intrinsic leisure motivation, personality–situation interaction

Factors in the social situation are typically viewed as influencing people's level of intrinsic motivation in a leisure activity. Situational influences examined by leisure researchers include the negative influence of external rewards, obligations, rules, structure of the activity, and evaluation of performance by others (e.g., Hoff & Ellis, 1992; Iso-Ahola, 1979; Mannell, Zuzanek, & Larson, 1988; Samdahl, 1992; Shaw, 1985). Social psychological research in a number of fields has strongly supported the idea that these types of factors create *controlling* situations that inhibit intrinsic motivation compared with autonomy-supportive situations that enhance intrinsic motivation in an activity (e.g., Amabile, DeJong, & Lepper,

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1976; Deci, Eghrari, Patrick, & Leone, 1994; Enzle & Anderson, 1993; Harackiewicz, Manderlink, & Sansone, 1984; Ryan, Deci, & Grolnick, 1995; Ryan, Mims, & Koestner, 1983). Autonomy-supportive compared with controlling situations have been characterized as providing greater opportunity for choice, the absence of surveillance, the absence of evaluation, less time pressure, and the presence of self-determined or noncontrolling interpersonal contexts (Deci & Ryan, 1991).

However, in addition to situational influences, personality factors may influence intrinsic motivation in an activity. In response to criticisms that intrinsic motivation theory had failed to consider the influence of personality variables, Deci and Ryan (1985a) expanded their theory of intrinsic motivation to include a *person-×-situation* approach. This type of interactionist explanation has proven useful in personality and social psychological research (cf., Diener, Larson, & Emmons, 1984; Kahana, 1978; Pervin, 1990; Shoda, Mischel, & Wright, 1993) and for the study of leisure behavior (see Mannell & Kleiber, 1997). Deci and Ryan (1985b) suggested that individuals differ in the degree to which they desire intrinsic rewards, and that these personality differences, in conjunction with situational factors, are important for understanding intrinsically motivated behavior. Csikszentmihalyi (1975) in his discussion of flow theory also recognized that people differ in their tendencies to seek out or "respond to intrinsic rewards" in an activity (p. 181). He called this tendency the *autotelic personality variable* (p. 22).

Deci and Ryan (1985b) developed the *general causality orientation* scale to measure individual differences in the tendency to seek out or experience intrinsically motivated behavior (i.e., autonomy orientation). However, they cautioned that "the general nature of the scale introduces a degree of variability that makes the prediction of specific actions rather difficult. Behavior is multi-determined and the general scale lacks sufficient specificity to capture much variance among these varied determinants" (p. 131). Subsequently, scales to measure intrinsic motivation in specific behavioral domains such as educational settings (Ryan & Connell, 1989) and sports settings (Briere, Vallerand, Blais, & Pelletier, 1990) have been developed. Research has shown the usefulness of these domain-specific measures (e.g., Vallerand & Bissonnette, 1992). With respect to leisure, Weissinger and Bandalos (1995) have suggested that Deci and Ryan's (1985b) scale does "not specifically measure intrinsic motivation in leisure contexts" (p. 382). This argument is consistent with Mannell's (1984) suggestion for the development of leisure-specific measures of dispositional constructs that are more germane to the use of free time and leisure.

Weissinger (1985) developed the *intrinsic leisure motivation* (ILM) scale to assess an individual's tendency to seek intrinsically motivated leisure pursuits. The ILM scale consists of four factors that reflect the extent to which people seek and experience self-determination, competence, commitment, and challenge in their leisure. In a recent article, Weissinger and Bandalos (1995) report data from nine studies (e.g., Ellis & Yessick, 1989; Hoff & Ellis, 1992; Weissinger, 1985; Weissinger, Caldwell, & Bandalos, 1992) which provide good evidence for the reliability and divergent and convergent validity of the scale (see Method for more detail). As did Deci and Ryan, Weissinger argues that personality differences in the tendency to seek out intrinsic rewards in activities need to be understood and examined within an interactionist framework that incorporates both person and situational factors. In fact, Weissinger and Bandalos (1995) suggested that an appropriate application of the ILM scale is to "test models of the interaction between dispositional and situational aspects of leisure behavior" (p. 396).

Purpose of Study

The primary purpose of the present study, then, was to examine the dynamics of the joint influence of personality as measured by Weissinger's ILM scale and type of social situation characterized as either autonomy-supportive or controlling. The ways in which person and situation factors combine to influence a person's intrinsic motivation in an activity have not been clearly specified. Consequently, three competing hypotheses were formulated and tested. The first hypothesis, a noninteractionist prediction, was derived from the view that people with a particular personality characteristic behave consistently relative to other people across a wide range of situations (Hogan, 1987; Pervin, 1990). In this case, intrinsic motivation in a leisure activity is a simple *additive* function of both person and situation factors. This hypothesis predicts an independent effect for both personality and social situation; that is, not only will a person's intrinsic leisure motivation in an activity be higher in more autonomy-supportive situations, but also it will be higher the stronger her or his ILM orientation, regardless of the type of situation.

Two competing person-×-situation interaction hypotheses also were tested. These hypotheses are based on the premise that people behave predictably, but not necessarily consistently, relative to each other across different situations (Diener et al., 1984). The first interaction hypothesis is based on the idea of person–situation fit, that is, the *congruence* model of interactionism. "The assumption is that the better the fit, the more favorable the consequences and outcome for the person" (Emmons, Diener, & Larsen, 1986, p. 817). Researchers typically identify the major person characteristics they think will interact with relevant characteristics of the situation and then determine the "fit." What constitutes a favorable outcome has varied: for example, performance, adjustment, satisfaction, and positive and negative affect (see Emmons et al., 1986). In the present study, it was hypothesized that a person with a high ILM orientation would be more intrinsically motivated in an autonomy-supportive than a controlling situation. The former circumstance would result in personality–situation congruence, and the latter would lead to incongruence. In other words, people with a high ILM orientation tend to seek out activities and situations that provide intrinsic rewards, and autonomy-supportive conditions provide these opportunities. Consequently, the outcome, the intrinsic motivation experienced in an activity, would be higher under these conditions (intrinsic motivation as an outcome was measured by the amount of time participants in a laboratory experiment freely chose to play a game, and their enjoyment and interest in the game). Deci and Ryan (1985a) speculated that those people who are not motivated to seek out intrinsic rewards may "to a greater degree, be sensitive to or even search for extant controls in the environment by which to organize their behavior" (p. 110). Consequently, it could be argued that a person with a low ILM orientation would find a controlling situation more congruent with his or her needs and be more intrinsically motivated in a controlling situation than in autonomy-supportive circumstances.

The second type of person-×-situation interaction tested is based on the possibility that factors in the social situation either inhibit or enable personality differences to affect behavior or experience (Deci & Ryan, 1985a; Mischel, 1973; Sherif & Sherif, 1969). In the present study, this *suppression–facilitation hypothesis* suggests that in an autonomy-supportive situation, the stronger a person's ILM orientation, the more intrinsically motivated she or he would be. A situation that offers more choice and that is less controlling allows the personality disposition to exert an influence on experience and behavior. However, factors in a controlling situation could overwhelm or suppress the influence of personality and its influence on intrinsic motivation in leisure, and consequently the strength of the ILM personality disposition would be unrelated to intrinsic leisure motivation in the activity. Evidence of this type of interaction in the area of leisure behavior has been found in studies of locus of control and situational freedom of choice (Mannell & Bradley, 1986) and type A-B personality and work and leisure contexts (Tang, 1986). The present study was designed to test these three competing hypotheses. Although we expected to find an interaction effect, we had no theoretical rationale for choosing one interaction hypothesis over the other.

A second purpose of this study was to explore the nature of the underlying cognitive processes by which the ILM personality orientation and factors in the social situation

influence intrinsic motivation in a leisure activity. The predominant social psychological explanations, Stimulus-Organism-Response (S-O-R) models (Baron & Kenny, 1986; James & Brett, 1984), rely on the identification of intervening cognitive processes to help explain how personality and social situation factors influence behavior and experience. These types of mediational mechanisms have been proposed as part of several theories of leisure behavior. For example, flow experiences (Csikszentmihalyi & Kleiber, 1991), mood states (Hull, 1990), and perceived competence (Iso-Ahola & Crowley, 1991) have been identified as mediating cognitive processes, though only a few attempts have been made to develop or test such models (Driver, Tinsley, & Manfredo, 1991; Mannell & Stynes, 1991).

The examination by social psychologists of the mediating cognitive processes underlying intrinsic motivation in general is itself recent (see Elliot & Harackiewicz, 1994; Sansone & Harackiewicz, 1996). *Perceived competence* has been proposed to be a critical mediator of intrinsically motivated activities (cf., Bandura, 1991; Elliot & Sheldon, 1997; Harter, 1989; Iso-Ahola, 1989). Other cognitive processes also have been suggested to underlie intrinsically motivated behaviors, and some support has been reported (e.g., Epstein & Harackiewicz, 1992; Harackiewicz, Manderlink, & Sansone, 1989; Tang & Baumeister, 1984). These processes include the importance to the individual of performing well on an activity (*competence valuation*), perceived pressure to perform well (*performance pressure*), the perception that actions associated with initiating and engaging in an activity are controlled by oneself (*perceived autonomy*), degree of absorption and concentration in a task (*task involvement*), and perceptions of activities as playful and leisurely rather than work-like (*perceived playfulness–leisureliness*). In the present study, no specific hypotheses were formulated, but these cognitions were explored as potential mediators to help explain the nature of the interaction and influence of ILM personality orientation and social situation on intrinsic leisure motivation (Fig. 1). For example, do social situation and personality disposition enhance intrinsic motivation by making participants feel more competent, playful–leisurely, and so forth?

A third purpose of this study was to examine the predictive and, consequently, the construct validity of the ILM scale. Weissinger and Bandalos (1995) reported correlations between ILM scores and scores on 13 other theoretically related variables. The pattern of correlations supported the construct validity of the ILM scale. As yet, the success of the scale in predicting actual levels of intrinsic motivation in a specific leisure activity has not been reported. In the present study, the influence of ILM personality orientation on actual leisure behavior was examined to test the three competing hypotheses, and consequently, the predictive validity of the ILM scale could be assessed.

Method

Overview of the Study

During a pre-experimental session, study participants were administered Weissinger's (1985) ILM scale as part of a battery of personality and attitude scales. Subsequently, they participated in the experimental laboratory portion of the study one at a time. The experiment consisted of three phases: (a) assessment of participants' initial interest level in a puzzle game after 5 minutes of practice; (b) participation in one of two randomly assigned treatment conditions (autonomy-supportive versus controlling situation) for 7 minutes; and (c) voluntary participation in one of several activities including the puzzle game during a 5-minute free-choice period without the presence of the experimenter (participation in the game was covertly monitored by video camera). The length of time spent playing in the puzzle game during the free-choice period constituted a behavioral measure of intrinsic motivation (free-choice time measure). Following the free-choice period, a self-report attitudinal

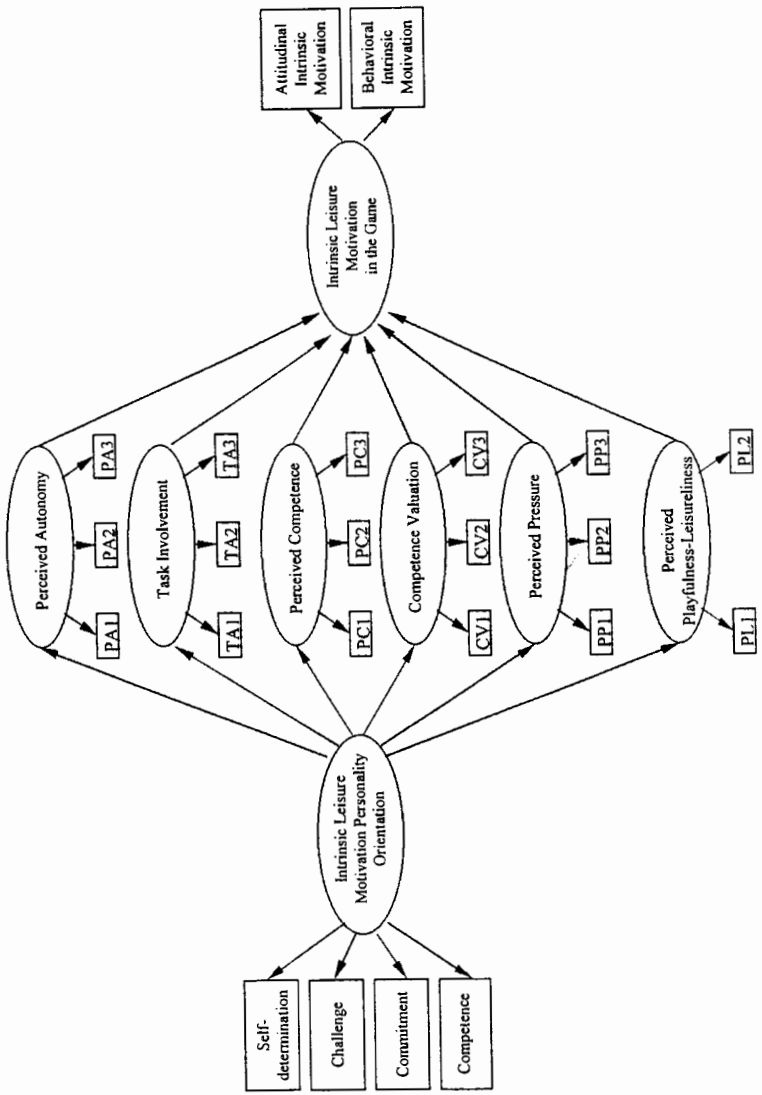

FIGURE 1 Initial mediated model of the relationship between the intrinsic leisure motivation personality orientation and intrinsic leisure motivation. Measurement errors (deltas and epsilons) and errors associated with predicting endogenous latent variables (zetas) are not described here for the purpose of easing the graphic illustration.

measure of intrinsic motivation was administered. Debriefing took place following the completion of the experiment.

Participants

The participants were 105 undergraduate student volunteers (females = 69, males = 36) at a Canadian university, and they were recruited from a college of applied health sciences. The average age of the participants was 21.8 years, and age ranged from 19 to 45 years. Participants gave informed consent, participation was voluntary, anonymity and confidentiality were guaranteed, and no incentives were provided for volunteering.

Procedures

Assessment of Intrinsic Leisure Motivation Personality Orientation

Prior to the experimental sessions, participants were told that the leisure styles of university students were being examined. The ILM scale was administered to assess the tendency to seek intrinsically motivated leisure pursuits. The scale consists of 24 items with 7-point Likert-type rating scales (1 = very strongly disagree to 7 = very strongly agree). The subscales of *self-determination* (e.g., "I feel in control of my life during my leisure time"), *competence* (e.g., "The things I do in my leisure time make me feel good about my abilities"), *commitment* (e.g., "My leisure time activities absorb all my attention"), and *challenge* (e.g., "I am willing to try the unknown in my leisure time") each comprise six items. The full scale is published in Weissinger and Bandalos (1995). In nine published studies, Cronbach alpha reliability coefficients ranging from .87 to .91 have been found for the total scale, and coefficients for the subscales (self-determination, challenge, commitment, competence) have ranged from .64 to .83 (see Weissinger & Bandalos, 1995). In the present study, Cronbach alphas were .88 for the total scale, and .74 (self-determination), .81 (challenge), .70 (commitment), and .73 (competence) for the subscales.

Assessment of Initial Interest in the Puzzle-Game

The purpose of assessing participants' initial interest was to control for individual differences in the perceived attractiveness of the game (Sansone, 1989). After the participants completed the ILM scale, they were informed that during the next phase of the study, the researcher was interested in examining their experience of participating in a solitary leisure activity. Following instructions about how to play the puzzle game, Brick by Brick (Binary Arts Corporation), each participant practiced for 5 minutes. Level of initial interest in the puzzle game was assessed using a composite interst measure that consisted of five items (e.g., "I am willing to continue playing the game") with 7-point Likert-type rating scales (1 = very strongly disagree to 7 = very strongly agree). Cronbach alpha for this composite scale was .82. Unless otherwise noted, all measures used in this study were 7-point Likert-type rating scales.

Social Situation Treatment Conditions

Each participant was randomly assigned to either the autonomy-supportive (n = 53; females = 36, males = 17) or controlling condition (n = 52; females = 34, males = 18). The two conditions differed in amount of choice, surveillance, evaluation, time pressure, and interpersonal control. The participants listened to one of the following scripts on cassette tape.

> Autonomy-supportive condition: "During the following session, you may select any cards you wish from the 60 different puzzle cards. You may also move on to any puzzle whenever you wish. The solution is on the back of each card. You may look at the solution at any time you wish. We just want you to play with the puzzle without worrying about your performance. There are no performance criteria as far as we are concerned. In fact, as you have noticed, the puzzle is pretty challenging. Just play with the puzzle at your own pace and enjoy the challenge. In addition, we will not monitor and evaluate your performance, so I'll just sit there and get out of your way. You'll have about 7 min, but we can be flexible about the time. We'll turn on a video camera so that the supervisor can make sure the project's procedures are working properly. OK, please start playing with the puzzle at your own pace. Have a good time."
> Controlling condition: "During the following session, you are required to play the game in the order determined by the experimenter. The experimenter will give you the next puzzle card only after you have successfully completed the previous puzzle. In other words, you must complete each puzzle in order to move on to the next one. The solution is on the back of each card. However, you should not look at the solution. I will sit here to monitor and evaluate your performance. I will also tell you how much time remains every 2 min. You are expected to solve many puzzles in 7 min, so try to complete them as quickly as you can. In addition, I will turn on a video camera to see if you have a problem with following the instructions and to see how well you do. OK, start playing with the puzzles. Play hard and try to complete as many puzzles as possible in 7 min."

Following participation in one of the treatment conditions, each participant rated his or her perceptions of the amount of choice, pressure, monitoring or evaluation, and external control present while he or she played the puzzle game (e.g., "I felt pressure to solve as many puzzles as possible within a limited time period"). These seven items provided a manipulation check on the effectiveness of treatments. Cronbach alpha for the items was .79.

Assessment of Potential Mediating Cognitive Processes

On the same questionnaire as the manipulation check items, five of the six potential mediating variables (perceived competence, competence valuation, performance pressure, perceived autonomy, and task involvement) were measured with three items, and perceived playfulness–leisureliness was measured with two items (Table 1). Cronbach alphas for these scales were .94 (perceived competence), .93 (competence valuation), .91 (perceived autonomy), .91 (performance pressure), .57 (task involvement), and .83 (perceived playfulness–leisureliness).

Free-Choice Period

Participants then were informed that the main part of the study was over, and the only remaining task was to complete a final questionnaire. With the pretext of going to his office to pick up the questionnaire, the experimenter left each participant alone for 5 minutes, and during this time she or he was free to choose to play with the puzzle, read magazines, or relax and do nothing. When the experimenter left the room, he pretended to turn off the video camera. In fact, the video camera was kept on in order to record the participants' behavior during the free-choice period. The number of seconds each participant spent playing the puzzle game constituted a behavioral measure of intrinsic motivation. This type of behavioral measure has been used extensively and found to be a valid measure of intrinsic motivation (Deci, 1987; Wicker, Brown, Wiehe, & Shim, 1990).

After the experimenter returned to the room, a self-report attitudinal measure of intrinsic motivation was administered as part of the final questionnaire. This attitudinal measure

TABLE 1 Items for Operationalizing Cognitive Processes and Attitudinal Intrinsic Motivation

Cognitive processes	
Perceived competence	I felt I was doing well on the game.
	I felt skillful in playing the game.
	I felt competent in playing the game.
Competence valuation	It was important for me to perform well on the game.
	It was important for me to successfully solve the game.
	I cared about performing well on the game.
Performance pressure	I felt pressured to solve as many puzzles as possible within a limited time period.
	I felt pressure to solve puzzles as quickly as possible.
	I felt pressure from the experimenter while playing the game.
Perceived autonomy	I felt free to choose cards among 60 different puzzle cards.
	I felt a sense of control in playing the game (e.g., playing the puzzles in any order, looking at solutions at any time).
	I thought the experimenter mainly controlled the ways I played the game.[a]
Task involvement	I concentrated on playing the game very well.
	I was highly involved in the game.
	I thought about things unrelated to the game.[a]
Perceived playfulness–leisureliness	I thought playing the game was leisurely.
	Playing the game was more like play than work space.
Attitudinal intrinsic motivation	I enjoyed the game very much.
	I wished to do something else while playing the game.[a]
	I felt it was a waste of time to play the game.[a]
	I felt the game was fun and interesting.
	I felt the game was very boring.[a]

[a]Reverse codes.

consisted of five items assessing participants' levels of enjoyment and interest in the game (Table 1). Cronbach alpha for the measure was .86. A single item also was included in the final questionnaire for the purpose of a manipulation check on the free-choice period ("While the experimenter was out of the room, I felt free to engage in any activities I wished").

After the completion of the experiment, the participants were asked a few questions to determine if they had any suspicions about the purpose of the study. Then, participants were debriefed and given more complete information about the purpose of the study. Also, the participants were provided with an opportunity to ask questions or raise concerns and asked to complete a consent form indicating they understood the intent of the study and agreed to allow the researcher to use their data. The participants were given a handout that described the study.

Results

Manipulation Checks

The composite measure of the participants' perceptions of the autonomy-supportive and controlling situational treatment conditions was used as a check on the experimental manipulations. The results of a one-way analysis of variance strongly supported the validity and effectiveness of the treatment manipulation, $F(1, 103) = 477.03$, $p < .0001$ (mean scores for the autonomy-supportive and controlling situations were 6.24 and 2.81, respectively, with a higher score indicating more autonomy-supportive and less controlling).

Mean perceived freedom during the free-choice session was 6.52 on the 7-point scale indicating that the participants felt a high level of freedom to engage in any of the activities available during the free-choice period. Perceived freedom during the free-choice period did not differ significantly ($p > .05$) between participants in the autonomy-supportive (mean = 6.47) and controlling situations (mean = 6.57). Thus, the free-choice period operated as intended.

Deci et al. (1994) have pointed out that in "ego-involving" conditions, such as experiments in which people know they are under scrutiny and may feel their self-esteem to be contingent upon performance, continued participation in an activity like the puzzle game during the free time period could be a result of attempts to maintain self-esteem, and not of intrinsic motivation. According to these researchers, a positive correlation between the behavioral and attitudinal measures of intrinsic motivation can be taken to indicate that the participants' engagement in an activity during the free-choice period (i.e., the behavioral measure of intrinsic motivation) reflects "true" intrinsic motivation. The behavioral and attitudinal measures in the present study were found to be significantly positively correlated ($r = .42$, $p < .001$) and suggest that if participants persisted in playing the game, they also enjoyed their participation.

ILM Personality Orientation × Social Situation Interaction Effects

The interaction effects of ILM personality orientation and social situation (autonomy-supportive versus controlling) on intrinsic motivation in the puzzle game were examined by first carrying out a hierarchical regression analysis. In this analysis, level of initial interest in the game was entered at the first step to control for individual differences in the attractiveness of the game at the beginning of the experiment. The main effects (ILM orientation and social situation) were entered at the second step, followed by the ILM orientation–×–social situation interaction at the last step. As can be seen in Table 2, the ILM orientation–×–social situation interaction was statistically significant ($R^2_{change} = .05$, $p = .007$) after controlling the participants' initial interest in the game and accounting for the main effects of the ILM orientation and social situation. When the influence of gender on intrinsic motivation was examined, no main or interaction effects for gender were found to be significant ($p > .05$).

Structural equation modeling (SEM) was used to help interpret the interaction effects (see Arbuckle, 1997; Bollen, 1989). SEM provides a powerful and easily interpretable way of examining interaction effects (Newcomb, 1990). The relationship between ILM orientation and intrinsic motivation was found to significantly differ in the autonomy-supportive and controlling treatment groups. The model presented in Figure 2 for the autonomy-supportive group was tested for each treatment group. The numbers of respondents in each of the two treatment groups by themselves are relatively small for SEM analyses, and the results should be treated as exploratory. However, the findings are consistent with the interaction effect found with the hierarchical regression analysis and make sense theoretically.

TABLE 2 Hierarchical Regression in Predicting the Index of Intrinsic Leisure Motivation

Independent variables	R^2	R^2 change	β	Part correlation	p
Step 1	.29	.29			
Initial interest			.54	.54	.001
Step 2	.30	.01			
ILM orientation situations			−.07	−.07	.40
			−.01	−.01	.89
Step 3	.35	.05			
ILM orientation × situations			1.88	.22	.007

Note: The dependent variable, intrinsic leisure motivation, is the average of (a) the adjusted behavioral intrinsic motivation measure and (b) the mean scores of five-item attitudinal intrinsic motivation measures (7-point Likert-type scales). Raw scores of the behavioral intrinsic motivation measure (ranging from 0 to 300 seconds) were adjusted to scores on a 7-point scale (ranging from 1 through 7) in order for the scale of the behavioral measure to be equivalent to the scales of the attitudinal measures.
ILM = Weissinger's Intrinsic Leisure Motivation personality scale.

Because excessive nonnormality or kurtosis can threaten the validity of the maximum likelihood estimate or the generalized least-square (GLS) estimate in SEM, particularly for analyses with smaller sample sizes (Bollen, 1989), the distribution of each measured variable was checked (see Tabachnick & Fidell, 1989). Examination revealed that only the measure of behavioral intrinsic motivation had a significantly skewed distribution (-1.58, $z = 6.58$, $p = .001$). Consequently, the SEM analyses were conducted by applying the maximum likelihood estimate to the square-transformed measure of behavioral intrinsic motivation (see Bollen, 1989, p. 425).

A very good fit for the model was found when it was tested using the autonomy-supportive group (see fit indices in Table 3). For this group, the overall fit indices met the guidelines for interpreting such indices; that is, a good fit is generally considered to exist if

TABLE 3 Summary of Various Overall Fit Indices for the Models of the Relationship between the Intrinsic Leisure Motivation Scale Orientation and Intrinsic Leisure Motivation

	χ^2	df	p	χ^2/df	NFI	IFI	RFI	TLI	CFI	RMSEA
Direct effect model for the autonomy-supportive group	3.90	8	.87	.49	.99	.99	.99	.99	.99	.001
Fully mediated model for the autonomy-supportive group	51.50	40	.11	1.29	.98	.99	.96	.99	.99	.07
Total effects model for the autonomy-supportive group	51.36	39	.09	1.32	.98	.99	.96	.99	.99	.08

Note: NFI = Normed Fit Index (Bentler & Bonett, 1980), IFI = Incremental Fit Index (Bollen, 1988), RFI = Relative Fit Index (Bollen, 1986), TLI = Tucker-Lewis Index (Tucker & Lewis, 1973), CFI = Comparative Fit Index (Bentler, 1990), RMSEA = Root Mean Square Error of Approximation (Browne & Cudeck, 1993).

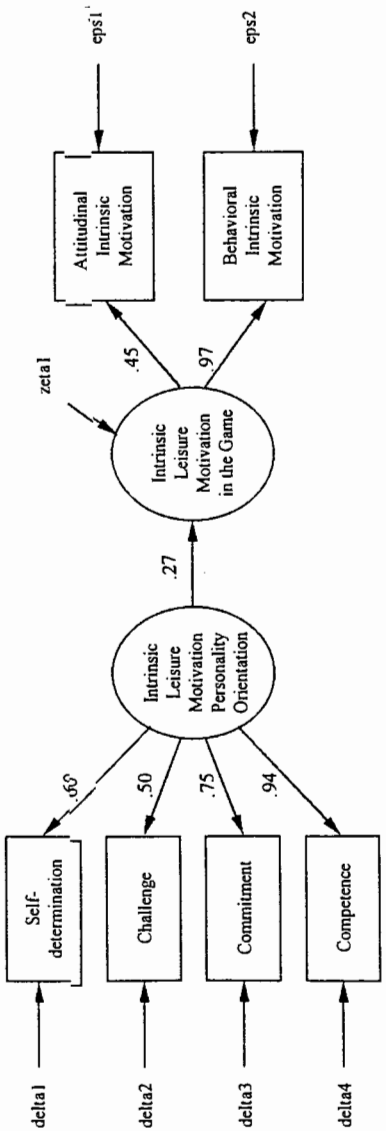

FIGURE 2 *Direct effect model* of the relationship between intrinsic leisure motivation personality orientation and intrinsic leisure motivation in the puzzle game for the autonomy-supportive group. Mean scores are used for operationalizing the measured variables including the four components of the orientation and the attitudinal intrinsic motivation. See text for the operationalization of the measured variable of behavioral intrinsic motivation. Weights represent standardized factor loadings or standardized regression coefficients. All reported weights are statistically significant at .05 level.

TABLE 4 Summary of χ^2 and χ^2-difference for the Models Compared

	χ^2	df	χ^2 difference	df difference
1. Direct effect model (autonomy)	3.90 ($p = .87$)	8		
2. Direct effect model (controlling)	381.32 ($p = .001$)	8		
3. Fully mediated model (autonomy)	51.50 ($p = .11$)	40		
4. Total effects model (autonomy)	51.36 ($p = .09$)	39		
Difference between model 3 and model 4			.14 ($.70 < p < .80$)	1

there is a statistically nonsignificant χ^2; the Incremental Fit Index, Tucker–Lewis Index, and Comparable Fit Index are above .90 (Bentler, 1992); there is a χ^2/df of less than 2 (Carmines & McIver, 1981); and a value of root mean square error of approximation is about .05 or less (Browne & Cudeck, 1993). The selection of fit indices to examine goodness of fit is based on Bollen's (1989) recommendation.

The standardized path coefficient for the effect of the ILM personality on orientation on intrinsic motivation is .27 ($p < .05$) for the autonomy-supportive group (Fig. 2). For those participants in the autonomy-supportive situation, the higher their ILM orientation, the greater their intrinsic motivation in the free time period. The same model, examined using the controlling treatment group (Table 4), was found to have a poor fit ($\chi^2 = 381.32$, df $= 8$, $p < .001$). In the controlling situation ILM orientation was unrelated to intrinsic motivation (standardized path coefficient = .07; $p > .05$). The results provide support for the suppression–facilitation interaction hypothesis. ILM orientation and social situation interacted to affect intrinsic motivation such that the higher the participant's ILM personality orientation, the greater her or his intrinsic motivation was in the puzzle game. However, this effect was only found in the autonomy-supportive situation, and the influence of ILM orientation appeared to be suppressed in the controlling situation.

Mediating Effects of Cognitions

The mediating effects of the various cognitions measured (perceived competence, competence valuation, performance pressure, perceived autonomy, task involvement, and perceived playfulness–leisureliness) were examined. First, an initial model including paths through all potential mediators (see Fig. 1) was tested separately for the autonomy-supportive group and for the controlling group. The initial model for both groups showed stronger relationships for some paths and weaker relationships for others. Paths with nonsignificant near-zero standardized regression weights were removed one by one to improve the fit of the model for each treatment group. For example, in the initial model for the controlling situation, the standardized regression weight for the effect of perceived playfulness–leisureliness on intrinsic motivation was .03; thus, the paths through perceived playfulness–leisureliness were eliminated. As a result of the sequential elimination of the weaker paths, a *fully mediated model*, in which ILM orientation affects intrinsic motivation not directly but strictly through the linkages of perceived competence and perceived leisureliness–playfulness (Fig. 3), showed a good fit for the autonomy-supportive group (e.g., $\chi^2 = 51.50$, df $=$ 40, $p = .11$; Incremental Fit Index = .99; Comparable Fit Index = .99; see Table 3). In

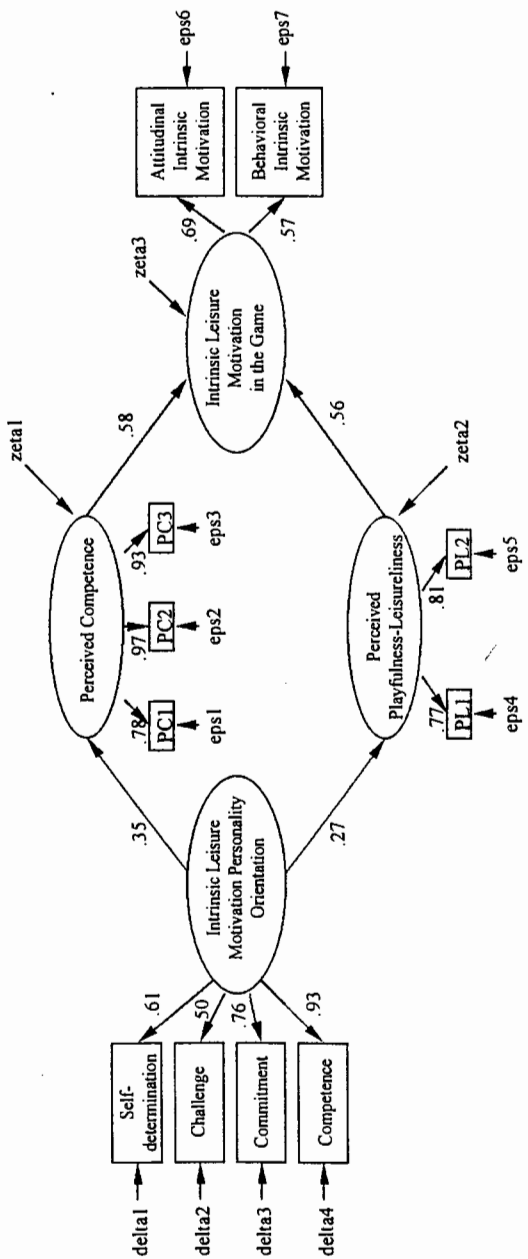

FIGURE 3 *Fully mediated model* of the relationship between the intrinsic leisure motivation personality orientation and intrinsic leisure motivation in the puzzle game for the autonomy-supportive group. Mean scores are used for operationalizing the measured variables including the four components of the orientation and the attitudinal intrinsic motivation. See text for the operationalization of the measured variable of behavioral intrinsic motivation. Weights represent standardized factor loadings or standardized regression coefficients. All reported weights are statistically significant at .05 level.

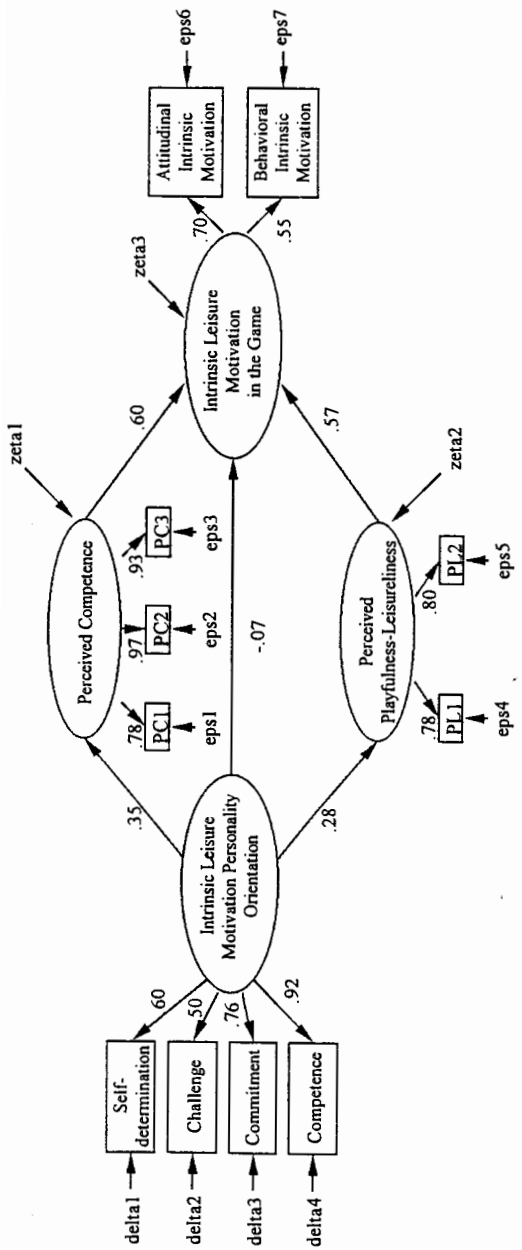

FIGURE 4 *Total effects model* of the relationship between the intrinsic leisure motivation personality orientation and intrinsic leisure motivation in the puzzle game for the autonomy-supportive group. Mean scores are used for operationalizing the measured variables including the four components of the orientation and the attitudinal intrinsic motivation. See text for the operationalization of the measured variable of behavioral intrinsic motivation. Weights represent standardized factor loadings or standardized regression coefficients. All reported weights are statistically significant at .05 level except for the direct path from the ILM orientation to intrinsic leisure motivation.

contrast, tests of various mediational models for the controlling group did not indicate a good fit (all χ^2 values were statistically significant at .001 level, and other overall fit indices such as Normed Fit Index. (NFI) Incremental Fit Index, and Comparable Fit Index were less than .90). That is, none of the variables examined was found to operate as a mediator in the controlling situation.

To determine if this fully mediated model was a good explanation of the influence of ILM orientation on intrinsic motivation in the puzzle game, its fit was compared with a *total effects model* (Fig. 4). In this latter model, the direct effect of ILM personality orientation on intrinsic motivation is included, as well as its indirect effect on intrinsic motivation caused by its influence on the perceived competence and playfulness–leisureliness mediating variables. The comparison of the two models indicates that the inclusion of the direct path from ILM personality orientation to intrinsic motivation did not improve the fit of the model, compared with the more parsimonious fully mediated model, χ^2 difference = .14, df difference = 1, $.70 < p < .80$ (Table 4). In the autonomy-supportive situation, the direct effect of ILM personality orientation on intrinsic motivation was not statistically significant (standardized path coefficient = $-.07$, $p > .05$) in the total effects model, in which both the direct effect of the ILM orientation and the mediation effects of perceived competence and perceived leisureliness–playfulness were included. Therefore, the effect of the ILM orientation on intrinsic motivation was fully mediated by perceived competence and perceived leisureliness–playfulness in the autonomy-supportive situation.

Discussion

Intrinsic motivation in the puzzle game was better explained by a person-×-situation interaction than the additive effects of personality and social situation factors (i.e., the additive hypothesis). Of the two interaction perspectives proposed, support was demonstrated for the suppression-facilitation hypothesis rather than the congruence hypothesis. Individual differences in ILM personality orientation influenced intrinsic motivation experienced in the puzzle game in the autonomy-supportive situation, in which participants were able to exercise high levels of freedom of choice and experience a sense of control, and not in the controlling conditions, in which freedom and personal control were restricted.

The nature of the personality-×-situation interaction found is consistent with findings reported by researchers in several other studies of the influence of personality and social situation factors on leisure behavior (Mannell & Bradley, 1986; Tang & Baumeister, 1984). Though this situation-specific influence of personality on behavior challenges the traditional assumption that personality differences are consistent in their influence on behavior across a variety of situations (see Mischel, 1990), it is compatible with more recent views that enduring individual differences vary in their influence predictably across situations (Shoda et al., 1993). Personality constructs, including the ILM construct, are still useful and valid; however, their influence needs to be thought of in a different way. Personality variables still can be conceptualized as stable dispositional influences, but they may affect behavior differently depending on the social context. Their influence sometimes may be altered or, as in the present study with its highly restrictive controlling treatment condition, completely suppressed. It is possible that under less controlling conditions the influence of the ILM personality orientation may take some other form and lead to a pattern of behavior consistent with the congruence hypothesis. The influence of the degree of control exerted by the situation needs to be explored in future research.

The value of leisure-specific measures of general dispositional constructs also needs to be studied. Mannell (1984) argued that the development of leisure-specific dispositional measures could contribute to our understanding of leisure behavior. With respect to intrinsic motivation, Deci and Ryan (1985b) suggested that more domain-specific measures of their general causality orientation would likely have more explanatory power in studying

individual differences, and the ILM scale was developed based on this idea (Weissinger & Bandalos, 1995). This premise needs to be examined in future research, and the added value of using leisure-specific constructs and scales like the ILM compared with their more general counterparts needs to be tested.

The findings of the present study highlight the usefulness of the S-O-R model (i.e., the mediational perspective) for understanding the complex nature of leisure behavior and experience. It is both possible and useful to examine the mediating cognitive processes or linkages between antecedent personality and social situation factors, on the one hand, and resulting leisure behavior and experience, on the other. In the present case, a person's tendency to seek out intrinsic rewards in leisure (i.e., ILM personality orientation) and social situational factors (autonomy-supportive conditions) were found to influence intrinsic motivation and participation in a game only to the extent that they contributed to perceptions of competence and feelings of leisureliness and playfulness in the activity.

Playful and leisurely cognitions have been suggested as an important experiential feature of rewarding leisure pursuits (e.g., Ellis, 1973; Lieberman, 1977; Mannell, 1984). Some support for the idea that perceptions of playfulness and leisureliness can serve as cognitive mediating variables for intrinsic motivation in a leisure activity comes from a study reported by Tang and Baumeister (1984). They found that the influence of having a type A or B personality orientation and performing a task in either a work or leisure setting on intrinsic motivation was mediated by perceptions of how playful and leisurely the task was experienced to be.

Perceived competence has been found to be an important mediator of intrinsic motivation in other domains of behavior as well. Shoda et al. (1993) found that perceived competence mediated the effects of personality-×-situation interactions on the prosocial behavior of children with behavioral problems in a summer-camp setting. If personality and situation factors led to stronger feelings of competence, the children displayed higher levels of prosocial verbal behavior. In a study of university students reported by Elliot and Shelden (1997), perceived competence mediated the effects of personal achievement goals on outcomes such as feelings of fulfillment, satisfaction with progress, self-esteem, and life satisfaction. Also, Vallerand, Fortier, and Guay (1997) found that perceived competence played a mediating role in the relationship between the classroom environment and academic motivation and dropout behaviors among high school students. Specifically, low levels of autonomy-supportive behaviors from parents, teachers, and school administrators undermined students' perceptions of competence and autonomy, which, in turn, reduced their intrinsic motivation in their school work and later resulted in actual dropout behavior.

The findings of the present study should not be taken to suggest that perceived competence and perceived playfulness–leisureliness are the only mediating cognitive processes that may operate. For example, the puzzle used was a competence-based game and, consequently, likely made perceptions of competence highly salient and relevant to behavior and experience in the game. Research needs to be done on other types of leisure activities with different characteristics.

Strong support was found for the predictive and construct validity of Weissinger's ILM personality scale. ILM orientation influenced both participation in and attitudes toward the puzzle game. In autonomy-supportive conditions, those participants who had higher levels of intrinsic leisure motivation as measured by the ILM personality scale spent more time playing the puzzle game, and they enjoyed and were more interested in the game. Previous analyses of construct validity (see Weissinger & Bandalos, 1995) have been based on the extent to which scores on the ILM scale correlate or do not correlate with measures of other constructs in predictable ways (convergent and divergent validity). The present study

indicates that the ILM scale measures an enduring disposition or set of cognitive processes that can influence actual behavior and experience. The fact that ILM orientation did not influence behavior in the controlling condition is not a challenge to the validity of the ILM construct and measure itself. Rather, as suggested previously, the personality-×-situation interaction perspective allows a more complex view of how personality factors operate in conjunction with social situation factors, a perspective that recognizes that personality may predictably differ in its influence on behavior across situations.

The power and influence of intrinsic motivation has been demonstrated in many areas of human behavior, and it is an important feature of meaningful and beneficial leisure. Creating our own leisure or helping others experience meaningful leisure through program and service delivery or counseling and education is in large part dependent on fostering intrinsic motivation. If we are to facilitate intrinsic motivation in leisure pursuits, we must be sensitive to the social situation in which participation occurs and individual differences in how people react to these social circumstances. Attention to what participants are perceiving and feeling is also necessary. The findings of the present study support theories that suggest that these personality and social situation factors can be measured and studied and the cognitive processes involved understood.

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Redefining the Recruitment Niche for the Guide Association in the United Kingdom

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This article shows how the concept of a recruitment niche can be valuable in understanding the difficulties the Guide Association in the United Kingdom has in recruiting new volunteers. Understanding Guiding as career volunteering, within serious leisure, shows how the distinctive ethos of the existing volunteers contributes to the social construction of the recruitment niche. The defining boundaries of the niche restrict the ability to recruit new volunteers. Thus the article gives an example of how a recruitment niche for a voluntary organization can be defined using the socially constructed ethos of volunteers involved in career volunteering rather than by characteristics such as level of educational attainment. It also demonstrates the implications of this for voluntary organizations wishing to increase recruitment.

Keywords Guide Association, serious leisure, volunteering

The Problem

Although this paper focuses on the recruitment of Guide leaders, the research it draws on (Nichols & King, 1997) was commissioned by the Guide Association to examine several related problems. These included the dropout rate from the organization, especially within the age range of 9 to 15 years; identifying the training needs of unit Guiders and how these could be met; providing a benchmark for the measurement of the image of the Guide Association among the general public, young people, and Guides; finding out how unit Guiders are recruited, managed and supported; and evaluating the communication between unit Guiders and Commonwealth Head Quarters in London. The drop in membership from the ages of 9 to 15 years was felt to be related to problems in the recruitment of leaders: A shortage of leaders contributes to difficulties in delivering the program and delivering the range of activities required to maintain the interest of young people.

This article confines itself to examining the problem of leader recruitment, using the concept of a recruitment niche to understand some of the difficulties faced by the Guide Association and how they can be overcome. The primary purpose is to demonstrate how the concept of a recruitment niche can be defined by the distinctive ethos of volunteers in career volunteering (Stebbins, 1992) rather than by characteristics, such as level of educational attainment (McPherson & Rotolo, 1996). The general implication of this analysis for the

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