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Senior Olympians' Achievement Goals and Motivational Responses

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The purpose of this study was to examine the motivational perspectives of athletes participating in the Senior Olympic Games. One hundred thirty-seven senior athletes (54 males, 82 females, and 1 nonidentifier) completed measures of goal orientations, beliefs about the causes of success in sport, intrinsic motivation, and views about the purpose of sport. Multivariate analysis revealed a positive association between task orientation and intrinsic motivation, the belief that success in sport is achieved through hard work, and self-improvement-based purposes of sport. In contrast, ego orientation was associated with the belief that success in sport is achieved by those who are gifted with natural ability and who know how to maximize external and deceptive factors. Further, ego orientation was linked to the belief that the purpose of sport was for personal gain. The motivational implications of the present findings are discussed based on the tenets of goal perspective theory.

Key Words: seniors, goals, motivation, beliefs, Olympics, purposes

One theoretical framework that has been used widely to examine important motivational variables related to individuals' participation in sport and exercise is Nicholls's goal perspective theory (Nicholls, 1989). According to Nicholls, individuals construe success via two potential orientations: task and ego. When individuals are task oriented, their perceptions of success are based on personal standards that reflect high effort, mastery of skills, and improvement over time. Thus, perceptions of success are self-referenced for individuals who are high in task orientation. In contrast, people who are high in ego orientation base their perceptions of success on normative information related to their performance. Highly ego-oriented individuals, then, feel most successful when they have outperformed their peers (e.g., they win) or performed equally with less effort. Effort and improvement are not of central importance to individuals who are high in ego orientation (Nicholls, 1989).

Nicholls (1989) suggested that goal orientations are important because they predict individuals' thoughts, feelings, and behaviors in achievement settings. In particular, Nicholls reported that a task orientation is preferred because of its

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association with adaptive motivational responses for individuals, regardless of whether their perceptions of ability are low or high. He further predicted that individuals high in ego orientation who have low perceptions of ability are at greater risk of displaying maladaptive motivational responses. Considerable research has supported the tenets of Nicholls's goal perspective theory in the physical domain. For example, a task orientation has been linked to intrinsic motivation; that is, individuals high in task orientation report greater effort and enjoyment and less tension when participating in physical activity (Duda, Chi, Newton, Walling, & Catley, 1995). In addition, persistence and a preference for more challenging tasks have been associated with a task orientation (Chi, 1993; Solmon & Boone, 1993).

In contrast, an ego orientation has been associated with a number of variables that cause some concern with regard to individuals' sporting experiences. For example, ego orientation has been linked to individuals reporting concentration disruption before and during competition (White & Zellner, 1996), choosing less challenging tasks (Solmon & Boone, 1993), and experiencing lower levels of enjoyment and intrinsic motivation (Duda et al., 1995). Further, ego orientation has been positively correlated with individuals reporting difficulty in formulating strategies during competition and has been negatively correlated with their levels of state self-confidence (Newton & Duda, 1993, 1995).

While goal orientations have been linked to a number of performance-related affective, cognitive, and behavioral responses, Nicholls (1989) suggested that goal perspectives also reflect individuals' larger views of the world. He used the analogy that goal perspectives are similar to lenses through which people consider the world, and they reflect individuals' views of more philosophical questions such as the causes of success in and the purpose of achievement activities.

Evidence has supported this tenet of Nicholls's theory, in that a link has been made between goal orientations and individuals' beliefs about what leads to success in sport. A task orientation has been associated with the view that individuals succeed in sport because they try hard, whereas an ego orientation has corresponded more closely with the belief that success is achieved primarily by athletes who are highly gifted with natural ability (Duda, Fox, Biddle, & Armstrong, 1992; Duda & White, 1992; Hom, Duda, & Miller, 1993; Newton & Duda, 1993; Treasure & Roberts, 1994; White & Duda, 1992). An ego orientation has also been associated with the belief that success is achieved through external factors such as having good luck and the right equipment as well as through the strategic use of deception (e.g., pretending to like the coach) (Newton & Duda, 1993; Treasure & Roberts, 1994; White & Duda, 1992). From a motivational perspective, it is preferable that individuals believe that success results from hard work and mastery of tasks because they have greater control over these aspects of participation than over their ultimate ability levels and external factors (Duda, 1993; Nicholls, 1989).

Research has also revealed an association between goal perspectives and individuals' views about the purpose of sport and physical education. Specifically, a task orientation has been correlated with the views that sport should help people master skills, cooperate with one another, learn how to acquire and maintain appropriate fitness levels, and enhance self-esteem. Research suggests, however, that individuals high in ego orientation are more prone to believe that important purposes of sport are to teach people to be tough competitors and to raise their social

and career status levels (Duda, 1989; Treasure & Roberts, 1994). It appears that the purposes of sport subscribed by individuals high in task orientation are more likely to foster an ongoing interest and involvement in sport across the life span.

In sum, research in the last decade employing Nicholls's goal perspective theory has provided a foundation indicating that a task orientation is more likely to lead to long-term enjoyment of and interest and participation in physical activity. This appears to be true for a wide range of individuals, as Nicholls's theory has shed light on the motivational patterns of child (Hom, Duda, & Miller, 1993; Treasure & Roberts, 1994), adolescent (Newton & Duda, 1993; Walling & Duda, 1995), and college-aged athletes and physical education students (Duda et al., 1995), as well as elite athletes (Duda & White, 1992) and athletes with disabilities (White & Duda, 1992). (See Duda, 1992, for a review.) However, a critical test of any psychological theory is its ability to predict and explain behavior across the life span. To date, no research has attempted to assess the goal orientations or the tenets of goal perspective theory with older individuals.

This is unfortunate because senior citizens make up an increasing percentage of the population. Approximately 30 million Americans are currently over 65 years of age. It is estimated that by the year 2040 this number will increase threefold (Kinsella & Taeuber, 1993). Better health care and advancements in medical technology have helped to extend the life span so that many people live well into their seventh and eighth decades. Remaining physically active increases the chances that individuals will live longer and healthier (i.e., self-reliant, disease-free) lives (Blair & Tramm, 1995).

Because activity across the life span is an important factor with regard to long-term health and quality of life, research specifically exploring the motivational perspectives of senior citizens should be pursued. One strategy is to investigate the motivational characteristics of seniors who currently remain physically active. Thus, this paper describes a study that was conducted to examine Nicholls's goal perspective theory with older individuals who are still actively participating in sport.

A pilot study was conducted that examined the relationship between goal orientations and the beliefs that working hard (effort) and having the requisite ability were the primary causes of success in sport. Participants were 60 seniors involved in a Senior Olympic Games competition. A positive relationship was found between task orientation and the belief that effort led to success ($r = .70, p < .01$) and ego orientation and the belief that one had to have the requisite ability to succeed in sport ($r = .56, p < .01$). Based on the findings of the pilot study, the purpose of this study was to examine seniors' beliefs about the causes of success as well as to investigate seniors' levels of intrinsic motivation (i.e., self-reported effort/importance, enjoyment/interest, tension/pressure), and their views regarding important purposes of sport.

Drawing on research with younger individuals, we predicted that senior athletes high in task orientation would report higher levels of enjoyment and effort and lower levels of tension with regard to their participation in sport. Further, we hypothesized that task orientation would be positively related to the belief that success in sport is achieved via high effort and that important purposes of sport include fostering mastery of skills and cooperation with others, teaching individuals

how to achieve adequate fitness levels, and instilling in people a commitment to be involved and caring citizens. In contrast, a significant positive association was predicted between ego orientation and the belief that success in sport is achieved by individuals who have high ability. In addition, we hypothesized that athletes high in ego orientation would be more prone to believe that important purposes of sport include enhancing individuals' social and career status, self-esteem, and levels of competitiveness.

Previous research has at times revealed significant gender differences with regard to goal orientations. Specifically, females sometimes score higher in task orientation than males, while males sometimes score higher in ego orientation than females (Duda, 1989; Duda et al., 1995; Duda, Olson, & Templin, 1991; Kavussanu & Roberts, 1996). However, no hypothesis was made for these studies since previous research has not assessed seniors' goal orientations.

Method

SUBJECTS AND PROCEDURE

A survey packet was mailed to all participants ($N = 318$) in a regional Senior Olympic Games competition. The directions requested that the participants voluntarily complete a number of questionnaires and return them via mail to the principal investigator. A total of 137 senior athletes returned the mailed questionnaire, resulting in a 43% response rate.

The gender distribution of the participants was 54 males, 82 females, and 1 person who did not indicate gender. The average age of the athletes was 64.47 years ($SD = 7.76$, range 49–83 years). A majority of the subjects identified themselves as Caucasian (92.6%). The seniors reported that they had been playing or participating in their sport for an average of 23.91 years ($SD = 20.18$) and competing an average of 3.17 years ($SD = .50$). The subjects reported training an average of 4.96 hr/week ($SD = 4.76$) for their event(s) and participated in a number of events, including but not limited to tennis, track and field, and bowling. The data from athletes participating in the various events were pooled and thus no between-event/sport analyses were conducted. This method was chosen because task orientation and ego orientation represent dispositional tendencies that should not vary significantly across achievement situations.

MEASURES

Dispositional Goal Orientation. The subjects' proneness toward task and ego involvement in competitive sport was assessed by the Task and Ego Orientation in Sport Questionnaire (TEOSQ; Duda, 1989, 1992). The TEOSQ requests that the participants think about when they felt most successful in their sport and respond to 7 items designed to assess task-oriented (e.g., "I feel most successful in my sport when something I learn makes me want to practice more") and 6 items reflecting ego-oriented (e.g., "I feel most successful in my sport when others mess up and I don't") criteria for defining success. The subjects' responses were indicated on a 5-point scale (1 = *strongly disagree*, 5 = *strongly agree*). Mean scale scores were

calculated for the task orientation and the ego orientation scales of the TEOSQ. The two-dimensional factor structure of the TEOSQ has been supported (Duda, 1992, 1993) and the measure has been found to be internally consistent (alpha coefficients ranging from .81 to .86 and .79 to .90 for the task and ego subscales, respectively) and reliable (3-week test-retest reliability correlations of .68 and .75, respectively).

Beliefs About the Causes of Success. To assess the subjects' views concerning the determinants of success in their sport, 21 items of the Beliefs About the Causes of Success in Sport Questionnaire (BACSSQ; Duda & Nicholls, 1992; Duda & White, 1992; Nicholls, Cheung, Lauer, & Patashnick, 1989; Nicholls, Patashnick, & Nolan, 1985) were slightly adapted for use with an older sample and were administered. Specifically, items tapping the effort (7 items), ability (5 items), and external factors (9 items) subscales were included. The stem for each item was "Older adults who play sports succeed if they..." Examples of items include "work really hard" (effort), "are born natural athletes" (ability), and "are lucky" and "have the right clothes" (external factors). Each response was reported on a 5-point Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*). Previous research examining the factor structure of the BACSSQ has consistently identified three factors (Duda et al., 1992; Duda & White, 1992; Newton & Duda, 1993; White & Duda, 1993). Additionally, these factors have been found to be internally consistent in both the academic (Nicholls et al., 1985, 1989) and sport (Duda et al., 1992; Duda & White, 1992; Newton & Duda, 1993; White & Duda, 1993) domains.

Intrinsic Motivation. The participants responded to the 18-item Intrinsic Motivation Inventory (IMI; McAuley, Duncan, & Tammen, 1989; Ryan, 1982). The IMI was designed to assess overall levels of intrinsic motivation as an additive function of the underlying four dimensions of enjoyment/interest (5 items, e.g., "I enjoy my sport very much"), effort/importance (4 items, e.g., "I put a lot of effort into my sport"), tension/pressure (4 items, e.g., "I feel tense while playing my sport"), and perceived competence (5 items, e.g., "I think I am pretty good at my sport). The reliability of the perceived competence subscale has not been substantiated in the physical domain and was removed prior to analysis. Participants responded to the IMI using a 7-point Likert-type scale (1 = *strongly disagree*, 7 = *strongly agree*). The IMI (with the exception of the perceived competence subscale) has been found both to be valid and to have acceptable internal reliability (Duda et al., 1995; McAuley, et al., 1989).

Purpose of Sport Questionnaire. The 48-item Purpose of Sport Questionnaire (Duda, 1989) was utilized. This measure assesses participants' views concerning the purpose of sport along seven dimensions. Each statement was preceded by the stem, "A very important thing sport should do..." and was responded to on a 5-point Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*). The dimensions include mastery/cooperation (7 items, e.g., "teach us to be satisfied when we tried our best), fitness (5 items, e.g., "teach us how to exercise"), good citizenship (7 items, e.g., "teach us to sacrifice pleasure and work to do the right thing"), competitiveness (8 items, e.g., "teach us to be aggressive"), career status (6 items, "prepare us to reach the top in our jobs"), enhancing self-esteem (6 items, e.g., "make us feel important"), and enhancing social status (7 items, e.g., "weed out those who don't have what it takes"). Previous studies have reported acceptable validity and reliability of the measure (Duda, 1989).

Results

PRELIMINARY ANALYSES

To date, the factor structure of the Task and Ego Orientation in Sport Questionnaire has not been examined in older athletes. Consequently, a principal-components analysis with varimax and oblique rotations was conducted on the subjects' responses to the measure. Factors were retained based on a criterion eigenvalue of 1.0 and inspection of the scree plot. Items were considered to have loaded on a factor if the loading was .45 or greater. Due to the low interfactor correlation, the varimax factor loadings are presented (see Table 1). Consistent with previous work, two factors emerged that accounted for 55% of the response variance. The first factor, labeled task orientation, consisted of seven items that represent self-referenced, mastery-based criteria for success. The second factor, labeled ego orientation, contained six items that focused on other referenced criteria for experiencing success in sport. The correlation between task orientation and ego orientation was not significant ($r = -.10$), further substantiating the orthogonality of goal orientations. These results are similar to previous factor analytic work involving the TEOSQ (see Duda, 1993).

In order to ascertain the internal consistency of the instruments that were used in this study, we calculated Cronbach (1951) coefficient alphas for the respective scales of each measure. As can be seen in Table 2, all scales, except the enjoyment/interest subscale of the IMI, had acceptable internal reliability. Thus, results pertaining to the enjoyment/interest subscale of the IMI should be interpreted with caution.

Table 1 Principal-Components Analysis (Varimax Rotation) of the Task and Ego Orientation in Sport Questionnaire

I feel most successful in sport when	Task	Ego
I learn a new skill by trying hard.	.85	
I learn a skill and it makes me want to practice more.	.82	
Something I learn makes me want to go practice more.	.82	
A skill I learn really feels right.	.76	
I do my very best.	.72	
I work really hard.	.63	
I learn something that is fun to do.	.51	
I get the most points, games, aces, etc.		.81
I can do better than my teammates.		.79
I'm the best.		.73
The others can't do as well as me.		.72
I'm the only one who can do a skill.		.65
Others mess us and I don't.		.63
Eigenvalue	3.98	3.17
Percent variance	30.60	24.40

Note. Only loadings greater than .30 are provided.

Table 2 Means, Standard Deviations, and Coefficient Alphas for the TEOSQ, BACSSQ, IMI, and Purpose of Sport Questionnaire

	<i>M</i>	<i>SD</i>	α
Goal orientation (TEOSQ)			
Task orientation	4.25	.43	.86
Ego orientation	2.69	.84	.82
Beliefs about the causes of success (BACSSQ)			
Belief-effort	4.12	.45	.82
Belief-ability	3.06	.72	.75
Belief-external	3.90	.47	.79
Intrinsic motivation (IMI)			
Enjoyment/interest	6.15	.66	.59
Effort/importance	5.87	.91	.74
Tension/pressure	3.37	1.34	.82
Total intrinsic motivation	5.18	.64	.71
Purpose of sport			
Mastery/cooperation	4.34	.40	.82
Fitness	4.39	.42	.83
Good citizen	3.82	.53	.76
Competitiveness	3.17	.50	.73
Career status	3.03	.68	.82
Enhance self-esteem	3.78	.47	.70
Enhance social status	2.54	.59	.81

MANOVAs were conducted to determine if gender differences existed in the subjects' responses to the measures. Gender differences were not found with beliefs about the causes of success [Wilks's lambda = .95, $F(2, 122) = 1.96$, $p = .12$], intrinsic motivation, [Wilks's lambda = .79, $F(4, 125) = .95$, $p = .44$], and perceived purposes of sport [Wilks's lambda = .92, $F(7, 104) = 1.34$, $p = .24$]. Gender differences were noted for goal orientation [Wilks's lambda = .90, $F(2, 123) = 6.78$, $p < .002$]. Follow-up univariate analyses suggested that the males and females did not differ in task orientation and that males were more ego oriented ($M = 2.99$) than females ($M = 2.49$).

Means and standard deviations of the measures are also provided in Table 2. The senior Olympians were high in task orientation and moderately low in ego orientation. In addition, they believed that hard work would get one ahead in sport but also agreed that external factors played a role. As a group they were neutral in their perception of the role of innate ability as an antecedent to success in sport. The athletes tended to endorse the idea that developing mastery and fitness skills was an important purpose of sport. On the other hand, participants did not support the view that sport should enhance one's social status. Finally, in terms of intrinsic motivation, the subjects' level of self-reported enjoyment was high, as was their effort, while their perceptions of pressure/tension while competing were rather low.

RELATIONSHIP BETWEEN GOALS AND INDICES OF MOTIVATION

To examine the interdependencies of goal orientations and the motivational indices of interest, simple correlations were computed (see Table 3). Task orientation was significantly and positively related to the belief that one must work hard to succeed in sport. On the other hand, ego orientation was positively related to the beliefs that external factors, such as equipment/clothes, and natural athletic ability were antecedents to success.

With respect to the relationship between goal orientations and the purposes of sport, task orientation significantly and positively corresponded with the mastery/cooperation, fitness, good citizen, competitiveness, and enhancing self-esteem subscales. Additionally, a significant positive correlation was observed between ego orientation and competitiveness, career status, enhancing self-esteem, and enhancing social status.

Ego orientation did not correlate with intrinsic motivation. Task orientation corresponded positively with enjoyment/interest, effort/importance, and the total intrinsic motivation score. In line with previous research (Duda et al., 1995), a canonical correlational analysis was used to ascertain the multivariate relationship between goal orientations and intrinsic motivation. The analysis simultaneously

Table 3 Simple Correlations Between Goal Orientations and Indices of Motivation

	Task orientation	Ego orientation
Beliefs about the causes of success (BACSSQ)		
Belief-effort	.56**	-.06
Belief-ability	.10	.43**
Belief-external	-.16	.28**
Intrinsic motivation (IMI)		
Enjoyment/interest	.42**	.07
Effort/importance	.34**	.10
Tension/pressure	-.02	.16
Total intrinsic motivation	.30**	.16
Purpose of sport		
Mastery/cooperation	.55**	-.06
Fitness	.49**	-.01
Good citizen	.33**	-.04
Competitiveness	.20*	.34**
Career status	.04	.23*
Enhance self-esteem	.50**	.24**
Enhance social status	-.08	.49**

* $p < .05$. ** $p < .01$.

considers multiple dependent and independent variables and creates linear combinations that are sensitive to the respondent's relative position on all scales. One significant function emerged [Wilks's lambda = .75, $F(6, 230) = 5.96$, $p < .01$, canonical correlation = .48]. As can be seen in Table 4, a goal orientation characterized by high task orientation and fairly low ego orientation was related to moderately high levels of enjoyment and a moderate focus on trying hard.

In line with previous work examining personal theories of achievement and the interdependence of goals and beliefs about success (Duda & Nicholls, 1992; Duda & White, 1992; Newton & Duda, 1993; Nicholls, Coff, Wood, Yackel, & Patashnick, 1990), a second-order principal-component factor analysis (with varimax and oblimin rotations) was computed on the subscales of the TEOSQ and the BACSSQ. For the senior athletes, two factors emerged with eigenvalues greater than 1.0 (see Table 5). Both rotations revealed similar factor structures. The varimax rotation was retained due to the low interfactor correlation ($r = -.02$). The first factor, termed an Ego Theory of Achievement, was comprised of an emphasis on

Table 4 Canonical Analysis: Goal Orientations and Intrinsic Motivation

	Standardized canonical coefficients
Goal orientation	
Task orientation	.98
Ego orientation	.23
Intrinsic motivation	
Enjoyment/interest	.76
Effort/importance	.36
Tension/pressure	.06

Table 5 Second-Order Principal Components Analysis (Varimax Rotation) Between the TEOSQ and BACSSQ

Scales	Ego theory	Task theory
Ego orientation	.78	-.04
Belief-ability	.77	.28
Belief-external	.67	-.20
Task orientation	-.08	.88
Belief-effort	.05	.87
Eigenvalue	1.67	1.64
Percentage of variance	33.50	32.80

ego-oriented goals and the beliefs that natural athletic ability and external factors played key roles in determining success in sport. Factor 2, labeled Task Theory of Achievement, contained a focus on task-oriented goals and the perception that working hard would get one ahead in athletics.

A similar strategy was employed with the mean subscale scores of the goal orientations and the seven dimensions comprising the Purpose of Sport Questionnaire (see Table 6). Two factors with eigenvalues greater than 1.0 emerged that accounted for 69.0% of the response variance. Due to the low interfactor correlation, the varimax rotation is presented. The first factor, named Personal Improvement, contained task-oriented personal goals and the perception that sport should teach us to master tasks and work together, foster knowledge about fitness, produce good citizens, and enhance self-esteem. The second factor, termed Personal Gain, was reflected in the beliefs that sport should enhance one's social status, teach athletes how to be competitive, help prepare people for high-status careers, and augment self-esteem, and it contained an emphasis on ego-oriented goals.

Discussion

This study marks a first attempt to consider Nicholls's theory of achievement motivation in relation to senior athletes' participation in sport. The psychometric properties of the TEOSQ were similar to those reported in other studies. In addition, the results aligned well with theoretical predictions of Nicholls's goal perspective framework as well as previous research conducted with younger individuals in the physical domain. Senior athletes high in task orientation clearly revealed a pattern of responses that suggest a number of benefits in terms of facilitating long-term commitment to, enjoyment of, and participation in physical activities.

Table 6 Second-Order Principal Components Analysis (Varimax Rotation) Between the TEOSQ and Purpose of Sport Questionnaire

Scales	Personal improvement	Personal gain
Mastery/cooperation	.86	-.04
Fitness	.85	-.02
Task orientation	.74	-.08
Good citizen	.72	.40
Enhance self-esteem	.69	.55
Enhance social status	-.13	.88
Competitiveness	.37	.80
Career status	.24	.78
Ego orientation	-.18	.64
Eigenvalue	3.92	2.29
Percentage of variance	43.50	25.40

For example, highly task-oriented senior athletes reported greater levels of intrinsic motivation as measured by their self-reported high effort and enjoyment. Intrinsic motivation is preferred over extrinsic motivation because it is more likely to be maintained over time. Deci and Ryan (1985) suggested that intrinsic motivation is higher when individuals feel a sense of control and receive information supporting their perceptions of competence. Because the senior athletes high in task orientation used effort, mastery, and improvement as criteria for success, they were more likely to perceive a sense of control over their athletic involvement, particularly when contrasted with highly ego-oriented individuals who based their success on normative standing, a factor over which athletes have little control. As a result, the senior athletes high in task orientation can enjoy their participation in sport, regardless of the outcome. Effort and enjoyment are possibly the most important factors in the exercise participation literature, especially if seniors are to receive the numerous physiological benefits of physical activity including weight control and protection from cardiovascular disease.

Although intrinsic motivation was associated with task orientation, neither the IMI total score nor the individual IMI scale scores for enjoyment/interest, effort/importance, and tension/pressure were significantly related to ego orientation. It may be that senior athletes high in ego orientation are motivated by more extrinsic factors related to outcome such as winning and receiving awards. Though no measure of extrinsic motivation was employed in this study, ego orientation was linked to athletes' beliefs that important purposes of sport include enhancing their social and career status. These results reflect their expectations that participation in sport should result in some tangible rewards such as a visible increase in popularity and an obvious benefit to their future employment status. Identical findings have been reported with adolescent students in physical education classes and participants in high school athletics (Duda, 1989; Treasure & Roberts, 1994). Though one could postulate that senior athletes who are retired or nearing the end of their careers might be less likely than younger participants to believe that sport should provide extrinsic rewards, it appears that regardless of age, individuals high in ego orientation are more likely to approach sport with the expectation that it will lead to fame and fortune. Nicholls and his colleagues revealed similar results when they surveyed high school students about their perceptions of important purposes of school (Nicholls et al., 1985). They wrote,

If all else were equal, most of us would probably accept more status and income. But, of the different views about the aims of education, the position that education should increase one's status and income was the most likely to be associated with academic alienation and the least likely to be accompanied by commitment to learning, satisfaction with learning in school, and plans to attend college. (p. 691)

It appears that a focus on extrinsic rewards can be sought at the expense of developing an intrinsic joy in learning and skill development in both the academic and physical domains.

Besides the link to increased social and career status, an ego orientation was also associated with the beliefs that important purposes of sport include enhancing self-esteem and instilling a competitive attitude in athletes. Of interest was that these two purposes of sport were correlated with task orientation, as well. The

wording of the various items on these scales explains why the scales were associated with both goal orientations. With regard to enhancing self-esteem, there were items that reflected more of a task orientation, such as, "An important thing sport should do is give us self confidence" or "teach us to set high standards for our own work." These items mirror the belief that sport should help individuals feel good about themselves though not at the cost of making others feel less worthy. In contrast, several items on the self-esteem scale suggested more of an ego-oriented perspective that rings with normative comparison. These items included, "A very important thing sports should do is to make us feel important" and "make us into winners."

In a similar way, the competitiveness scale included items that seemed to reflect more of a task or ego orientation, respectively. For example, the items "A very important thing sports should do is to make us mentally tough" and "teach us to compete with others" would likely be rated as important by those high in task orientation. In contrast, individuals high in ego orientation would be expected to score items such as "A very important thing sport should do is prepare us for a life in which winning is everything" and "teach us the killer instinct" higher. Nicholls's framework is often interpreted incorrectly by people who assume that task-oriented individuals are not competitive, do not enjoy competition, and avoid competition when possible. This simply is not the case. In fact, Nicholls (1989) indicated that what distinguishes individuals high in task versus ego orientation is the meaning competition has for them. For participants high in task orientation, competition provides the opportunity to say, "I tried my best." In fact, it is difficult in many activities to judge one's effort and improvement without having the opportunity to match one's skills against an opponent in competition. Highly ego-oriented individuals require competition because their goal is to be able to say, "I am the best," so an opportunity is needed to demonstrate their superior skill. According to Nicholls, these two approaches to competition reflect very different belief systems, and the Purpose of Sport Questionnaire competition scale may not distinguish individuals with these opposing views.

Even though the self-esteem and competition scales of the Purpose of Sport Questionnaire loaded on both task and ego orientation, the overall measure revealed a compelling profile for the goal orientations. The second-order principal components analysis indicated a mastery factor that associated task orientation with the beliefs that important purposes of sport include teaching people to persist in mastery of tasks, cooperate with their peers, strive to learn about and maintain adequate fitness levels, and be good citizens who feel a moral obligation to contribute to society in a positive way. Individuals high in task orientation, it would seem, view sport as a vehicle to develop the "whole" person and not just as a venue to promote themselves and their superior performance.

In a similar vein, the seniors' responses on the Beliefs About Success in Sport Questionnaire revealed contrasting views according to goal orientation. A task orientation was associated with the view that hard work is the major cause of success. Such a response is desirable for not only senior participants but individuals of any age because it provides potential for all athletes to experience success if high effort is the criteria, rather than competitive outcome. In contrast, an ego orientation was associated with the views that success is achieved by individuals who are gifted with natural ability and who maximize external factors such as having the right clothes/equipment and knowing how to use deception. Unfortunately, when athletes

share these views, they are less likely to feel successful if they do not believe they are gifted with natural athletic ability, cannot afford the latest sport clothes/equipment, and/or lack confidence in their use of deception.

From a psychological perspective, results from this study reveal very distinct profiles for senior athletes who are high in task versus ego orientation. Athletes high in task orientation, more so than ego orientation, benefit from higher levels of intrinsic motivation, a belief system that imbues hard work as a major cause of success and maintains that sport should benefit athletes in ways beyond winning and the social acclaim that may accompany it. In contrast, ego orientation appears to carry a risk in regard to the expectation that sport participation should result in popularity and enhanced professional status; this view is further complicated by the notion that uncontrollable factors (e.g., natural ability, luck, access to equipment/clothes) are major determinants of success. It is likely that senior athletes high in ego orientation will face frustration if their expectations are not met and their perceptions of control are threatened. Athletes high in task orientation, however, appear to express an adaptive set of motivational responses that are more prone to lead to enjoyment of, satisfaction with, and long-term participation in physical activity.

Because seniors make up an increasing portion of the population, and because with age comes a gradual decline in physical function, senior citizens' motivational perspectives regarding participation in physical activity comprise an important area of inquiry. As Bortz (1996) said, "We live too short and die too long." No doubt, the advancements in health care that have increased the life span are of little value if the quality of individuals' lives cannot be maintained as well. Research supporting the physiological benefits of physical activity for seniors is well accepted by exercise scientists, yet many seniors do not engage in regular physical activity. Shephard (1995) expressed concern in a recent special issue of *Research Quarterly for Sport and Exercise*: "Despite substantial information on the physiological benefits of physical activity for the middle-old and very old, there remains an urgent need to determine the most effective methods of encouraging exercise in those who are over 65 years of age" (p. 300).

One criticism of previous research with older individuals has been the lack of a theoretical base for better understanding how seniors' motivation can be maximized (Fillingam & Blumenthal, 1993). The results of the current study are promising in that Nicholls's theory of achievement motivation offers a viable framework for examining seniors' motivational perspectives in sport. While this study focused on seniors' dispositional goal perspectives, Nicholls suggested that whether individuals are task or ego involved at a particular moment is a function of not only goal orientations but also individuals' perceptions of the motivational climate surrounding their athletic circle of peers as well as cognitive developmental levels. Future research examining the impact of seniors' perceptions of the motivational climate might provide invaluable information for professionals who strive to foster seniors' participation in physical activity.

A major objective of this study was to employ a quantitative approach to better understand the motivational perspectives of seniors who continue to remain active in sport throughout their lives. Of interest is a study by Whaley (1997), who employed a qualitative approach using a feminist framework to consider seniors' reasons for not participating in formal physical activity programs. The researchers interviewed older healthy but sedentary adults to determine their perceptions of constraints to exercise (e.g., disinterest in available activities, health problems that

restrict particular activities), the personal meaning of the constraints, and strategies the subjects recommended to counter the constraints. Such an approach provides a rich data source as well an opportunity for seniors to share their personal views about participation in physical activity. The issue of encouraging older adults to be physically active is complex, and thus research with seniors who are both active and inactive has potential to provide important information. Further, multiple research approaches (e.g., qualitative and quantitative) provide the greatest chance that interesting and meaningful information will be gleaned to help senior citizens benefit from the many positive effects of physical activity.

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