Goal orientation, perceived competence and involvement in sport and fitness activities.

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Abstract

The purposes of this study were to: (a) investigate any significant generalisation across the sport and fitness domains for achievement goal orientation and also for perceived competence; (b) determine the extent to which involvement in sport and fitness activities is related to achievement goal orientation and perceived competence; and (c) investigate gender and reference group, in sport and fitness domains for achievement goal orientation and perceived competence.

Self-report questionnaires were analysed for 291 teenagers from local public high schools and youth sport development squads. There were 160 males and 131 females with an average age of 14.9 years. Correlation and analysis of variance revealed that (a) there was a significant generalisation between sport and fitness domains for achievement goal orientation and for perceived competence; (b) perceived competence was a stronger indicator of involvement in sport and fitness activities than achievement goal orientation; and (c) there were significant differences for gender and reference groups, in achievement goal orientation and perceived competence.
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Introduction

Many of today's youth give away involvement in sport and fitness at an early age, which may have ramifications for quality of life and wellness across their life span (Duda, 1996). To understand why this trend is occurring, insight is needed into the motivational determinants for youth involvement in sport and fitness activities.

Achievement goal orientation and perceived competence have emerged as motivational constructs that appear to have relevance to this issue. Roberts and Treasure (1995) and Duda (1996) argue that an examination of the role of goal orientation in sport and fitness activities is an important step in this direction. Harter's (1978, 1982) theory of competence motivation asserts that perceptions of competence, associated with success, are critical determinants of motivation to participate in most activities. People who consider themselves competent are more likely to continue to participate, while those who consider themselves less competent are more likely to stop participating.

Goal orientation theory was developed in an educational context (Nicholls, 1984,1989) and subsequently applied to sport (Duda & Nicholls, 1992) and fitness (Kimiecik, Horn & Shurin, 1996). It has been established that goal orientation generalises between sport and education, but little has been done to establish a similar generalisation within the
sport and fitness domains. Recent studies by Kimiecik et al. (1996) and Duda (1996) have indicated that some generalisation may exist, but more research is needed to establish whether or not goal orientation generalises between sport and fitness domains. Duda and Nicholls (1992) have systematically examined the question of domain specificity or cross-situational generality. They suggest that goal orientation is more likely to generalise than perceived competence, because goal orientation reflects what Nicholls (1992) terms habitual achievement preoccupation or orientation. Duda (1997) described goal orientation as a dispositional tendency to interpret an activity in a particular way. In other words an individual may carry a particular and personal disposition to goal orientation into all achievement activities, even though perceived ability and the desire for success in particular activities may vary considerably.

Nicholls (1989) considered that perceived competence was more activity specific than goal orientation and therefore less likely to generalise across achievement domains but there is a dearth of research directly addressing this claim. This research addresses the proposition of whether or not perceived competence does generalise across differing achievement domains and the extent to which goal orientation generalises across sport and fitness domains.

Previous research has indicated a relationship between the extent of involvement in sport and fitness activities and goal orientation and also between the extent of involvement in sport and fitness activities and perceived competence. Very
little research has been directly related to this issue. Consequently it is still unclear as to the extent of this relationship.

Williams and Gill (1995) consider that goal orientation is linked to perceptions of competence and is an important consideration for youth involvement in sport and fitness domains. Duda and Nicholls (1992) and Duda, Chi, Newton, Walling, and Catley (1995) found a positive relationship between goal orientation (particularly task orientation) and perceived competence. They maintained that this increased the likelihood of involvement in the sport domain.

Dempsey, Kimiecik and Horn (1993) and Kimiecik et. al. (1996) used three measures of involvement in moderate to vigorous physical activity (MVPA) to measure the extent of relationship with perceived fitness competence and fitness goal orientation. They reported perceived competence and task goal orientation to be positively related the measures of MVPA.

The relationship of background factors such as gender and reference group to goal orientation and perceived competence in sport and fitness domains is also examined to further clarify the nature and extent of any generalisation. Previous studies have produced ambiguous results in this regard. For example, some studies have found gender differences in goal orientation (Duda, 1989; Duda et al., 1995; White & Duda, 1994; Roberts & Treasure, 1995). Other studies have found no gender difference for either task or ego goal orientation (Williams & Gill, 1995). Similarly Roberts, Kleiber and Duda (1981) found that sport participants were higher in perceived
competence than non-participants in sport, but the relationship was not strong. Clarification of these issues would give researchers and practitioners alike better information on which to base interventions designed to encourage and improve involvement in the sport and fitness domains.

**Hypotheses**

1.) There will be significant generalisation between goal orientation in the sport domain and goal orientation in the fitness domain. In addition there will be a significant generalisation between perceived competence in the sport domain and perceived competence in the fitness domain.

2.) The degree of involvement in sport and fitness activities will be related to goal orientation and perceived competence.

3.) Males and females will differ in goal orientation and perceived competence within the sport and fitness domains.

4.) Semi-elite teenage sport-persons and high school students will differ in goal orientation and perceived competence within the sport and fitness domains.

**Limitations and Delimitations**

1.) The athletes were selected from state training squads of three sport groups (basketball, hockey and softball) and were assumed to represent a group of semi-elite adolescent sport-persons.

2.) Local high school students were assumed to represent a typical group of adolescent from the general population.
3. The participants completed the questionnaires outside the purview of the experimenter, therefore there was no control over the conditions under which the questionnaires were completed.

4. The sequencing of the sub-parts of the questionnaire was not counterbalanced to reduce the probability of order effects.
Literature Review

Achievement goal orientation has developed from a social cognitive perspective of motivational processes. The social cognitive approach to achievement motivation suggests that cognitive and value-related variables mediate the choice and attainment of achievement goals. This approach has several "mini-theories" embedded within it that purport to explain/describe motivated behaviour (Roberts, 1992). Two of these "mini-theories" (Achievement goal perspective and perceived competence) are investigated to further clarify the extent of generalisation between different achievement domains and the extent and nature of involvement in sport and fitness activities.

Much of the research in achievement goal orientations has been conducted in the educational domain (Ames, 1984, 1992; Ames & Archer, 1987, 1988; Blumenfeld, 1992; Butler, 1987; Butler & Neuman, 1995; Duda & Nicholls, 1992; Dweck, 1986; Elliot & Dweck, 1988; Nicholls, 1984, 1989, 1992; Nicholls, Patashnick, and Mettetal, 1985; Weiner, 1990) with the intention of further understanding of academic achievement. Two main goal orientations have been identified in these academic studies. Although there are differences in terminology, a consensus exists among various theorists about the nature and the role of achievement goal orientation in the motivation of behaviour (Duda, 1992).

Ames and Archer (1987, 1988) used the terms 'mastery' and 'ability' to describe the two major achievement goal orientations. Dweck and colleagues (Dweck, 1986; Elliot & Dweck, 1988) on the other
hand, used the terms 'learning goals' and 'performance goals,' while Nicholls (1984, 1989, 1992) used the terms 'task' and 'ego.' In conjunction with Nicholls, Duda (1989, 1992) developed the Task and Ego Orientation in Sport Questionnaire (TEOSQ), which influenced much of the subsequent research in sport and fitness goal orientation. In this research the terms 'task' and 'ego' are used to distinguish the two primary achievement goal orientations.

Duda (1989) measured the stability of the factor structure of the TEOSQ across two samples. Internal consistency of the task and ego sub-scales measured by Cronbach's alpha was .82 and .89, respectively, in the first sample, and .62 and .85, respectively, in the second sample. There was also a low correlation between the task and ego orientation factors (r=.03 in sample one and r=.12 in sample two). The internal consistency of these scales has been replicated by other researchers including White and Duda (1994), Boyd and Callaghan (1994) and Duda et al. (1995).

Goal perspective theory (Nicholls, 1989) suggests that achievement goal orientations reflect subjective definition of success and relate to judgements of competence levels. In task orientation, perceptions of ability are self-referenced, with subjective success based on personal improvement and skill development. In ego orientation, perceptions of ability are related to the ability of others, with subjective success based on outperforming others, especially if it involves less effort (Duda et al. 1995).

A point of contention in achievement goal orientation has been the nature of the relationship
between ego and task goal orientation (i.e. whether they are orthogonal or bi-polar in nature). Duda (1989,1992) and Nicholls (1989) maintain they are orthogonal and that the level of one orientation does not influence the level of the other dimension. They do not view ego and task orientation as opposite parts of a single continuum. Hardy (1997), on the other hand appears to support a bi-polar conception of goal orientation. He states that ego goal orientation is more concerned with outcome than task goal orientation, although he acknowledges in the same article that an individual can have both high task and ego goal orientation. Duda (1989,1992) maintains outcome is important to task and ego goal orientation. This is supported by the fact that when establishing the final items which make up the TEOSQ, the item relating to whether winning was important (outcome) had to be deleted because it loaded strongly for both task and ego goal orientation. This is consistent with her contention (1997) that outcome is significant for both task and ego orientation. As Duda (1997) points out, "the two goal orientations are dispositional tendencies to interpret an activity in a particular way (i.e. in a task- versus ego-involved manner) and not simply two different goal standards" (p. 304).

Whether or not these dispositional tendencies are maintained in different achievement domains is one of the primary issues addressed in this research.

**Generalisation of Goal Orientation and Perceived Competence**

Weiner (1990) suggested that there is little generality of achievement orientations across
domains. Duda and Nicholls (1992) raised the issue of domain specificity versus cross-situational generality. Their results indicated that beliefs about success and goal orientation generalised across the achievement domains of general education and sport. They suggested that measures of goal orientation reflect personal criteria of success. In other words, an individual is likely to maintain their goal orientation regardless of their level of preference for the particular activity.

Virtually all research in achievement goal orientation had been conducted in the domains of general education and sport until Dempsey, Kimiecik and Horn (1993) and Kimiecik et al. (1996) used an adaptation of the TEOSQ to measure goal orientation in the fitness domain. Internal consistency analyses conducted on this modified TEOSQ by Kimiecik et al. (1996) revealed Cronbach's alpha of .77 for the Task sub-scale and .88 for the ego sub-scale. Results were consistent with previous results found using the TEOSQ, but the issue of generality was unresolved.

If goal orientation generalises across different achievement domains, there should be a significant relationship between goal orientation in the sport domain and goal orientation in the fitness domain. Very little has been done to examine the relationship between sport and fitness domains. In this research, task and ego goal orientations are investigated across sport and fitness domains to further address the issue of generality or specificity of goal orientation.

The second mini-theory (Roberts, 1992) within the social cognitive approach to achievement motivation to be investigated is perceived competence
(Harter, 1978, 1982). Perceptions of competence are believed to be important determinants of subsequent motivation to participate (Klint & Weiss, 1987). The results of several studies (Duda et al., 1995; Harter, 1982; Horn, Duda, & Miller(1993); Klint & Weiss, 1987; Williams & Gill, 1995) have demonstrated support for competence motivation theory.

Nicholls (1992) considered perceived competence less likely to generalise across achievement domains than goal orientation. He considered perceived competence to be more activity-specific than goal orientation in as much as a person may feel competent in a particular activity but may not feel competent in another. A hypothetical example could be someone who feels competent at playing tennis but not at running marathons.

In this study, it is expected that perceived competence will generalise across the sport and fitness domains. If perceived competence is found to generalise across both sport and fitness domains it may suggest that perceived competence is a broader psychological concept than previously considered albeit noting the lack of previous research directed towards this area of research.

**Involvement in Sport and Fitness Activities**

The second hypothesis in this study addresses the extent to which involvement in sport and fitness activities is related to goal orientation and perceived competence. Duda (1993) states that a positive behavioural pattern is predicted when people are task orientated, and that a task orientation should enhance the probability that a person feels competent. Duda (1996) brought together much of this
research, with a case for greater task involvement to maximise motivation in sport.

Although there is speculation about youth involvement in sport and fitness activities in much of the research into goal orientation, little has been done to measure the extent of that involvement. This may be due in part to the difficulty of establishing a reliable measure of involvement in sport and fitness activities. Observation of actual physical activity poses a logistical problem for studies with reasonably large sample sizes. Therefore most studies that have investigated involvement in physical activities in relation to achievement goal orientation and perceived competence have relied on self-report measures of physical activity. Simons-Morton, O'Hara, Parcel, et al. (1990) report that this type of procedure provides a good estimate of children's actual physical activity. They obtained 86% agreement between children's reported levels of moderate to vigorous physical activity (M.V.P.A.) and similar scores obtained by actual observation of children's activity levels. Baranowski, Dworkin, Cieslik, Hooks, Clearman, Ray, Dunn, & Nader, (1984) reported comparable reliability results. However the problem of lack of control over the conditions under which the questionnaires are completed remains. Kimiecik, Horn and Shurin (1996) assessed the stability of these procedures for children aged 11-15 years. They used a two-day recall protocol in a sample of 18 children using one week day and one weekend day. Interviews were conducted a week apart, and intra-class correlational procedures were used to assess the stability of the scores. A coefficient of .78 was obtained.
In addition, two self-report measures of peer comparison were used where subjects compared their level of involvement in fitness activities with that of their peers. One measured comparisons with peers from the participant's own sex, and the other with all peers. Their reason for using two peer comparisons was to account for reported gender differences in children's levels of physical activity (Sallis, Nader, Broyles, Berry, Elder, MacKenzie and Nelson, 1993). After finding only low to moderate correlations between the three measures (2-day recall of fitness activity involvement and the two peer comparisons), Kimiecik et al. (1996) suggested that each measure provided different information concerning the adolescents involvement in fitness activities.

This study used the same three measures used by Kimiecik et al. (1996). Because of the focus of this study on sport and fitness, a recall measure of involvement in sport activity using the same format as the measure of involvement in fitness activity (Kimiecik et al., 1996) was also included.

The two-day recall format used by Kimiecik et al. (1996) was extended to a seven-day recall format with the expectation of providing a more reliable data base for analysis. The rationale for this was that it is reasonable to assume that most sport and fitness activities/programs for teenagers are based on a weekly format with the weekends being more significant in terms of involvement than weekdays. With a two-day format there is no way of controlling which two days the participants would report their level of activity for.
Dempsey et al. (1993) investigated childrens’ moderate to vigorous physical activity and reported that gender accounted for 7% and task goal orientation 5% of the variance in children’s MVPA behaviour. Kimiecik et al. (1996) reported that children’s perceptions of their physical competence and the degree to which they endorsed a task goal orientation were highly and positively related to the set of dependent MVPA variables cited above. Ego goal orientation was positively but more modestly related to the dependent set. The redundancy index revealed that 16% of variation in the children’s levels of physical activity could be explained by the set of predictor variables. Pedhazur (1982) states a redundancy value of at least 10% is considered significant and meaningful.

Gender and Reference Group

The remaining hypotheses in this study address gender and reference group differences in goal orientation and perceived competence within the sport and fitness domains. Ambiguity best describes results of previous research into gender differences in goal orientation and perceived competence.

Gender differences (Duda, 1989; Duda et al., 1995; Roberts & Treasure, 1995; White & Duda, 1994; Williams & Gill, 1995) has emerged as an important variable in furthering the understanding of goal orientation in sport and fitness domains. To date the main finding has been that females generally score higher in task orientation and males generally score higher in ego orientation. However, Williams and Gill (1995) found no gender differences, and, Li et al. (1997) reported in a study of Thai athletes that
females had significantly higher ego orientation and lower task orientation than their male counterparts. Cross-cultural differences may therefore exist in goal orientation, and with most previous studies using North American samples, there appears to be a need for further investigation of the gender differences in different cultural groups.

Chi and Duda (1995) conducted a multi-sample confirmatory factor analysis across intercollegiate skiers, college students, high school students, and junior high school sport participants. They reported that these groups did not have an identical conceptualisation of task and ego goal orientation and that from their results, the conceptually based factor structure of the TEOSQ indicated that the assumption of inter-group invariance of the measurement and factor structure could not be accepted. Although orthogonality of task and ego goal orientation was generally supported, they suggested the results were unequally valid across the four groups analysed and that future studies should compare groups that vary in gender, age and competitive level.

Brustad (1993), Williams and Gill (1995) and Duda et al. (1995) have all reported gender differences for perceived competence. The general finding was that boys were higher in perceived competence than girls. If this pattern is consistent, then the factors that contribute to this difference may have implications for future research into involvement in sport and fitness activities. The interaction of gender and reference group in this study may shed some light on our understanding of this finding. Of interest would be a comparison
between females in the semi-elite group compared with males from the general high school population and whether previous findings are consistent between these groups.

Differences between reference groups in achievement goal orientation and perceived competence underlie the final hypothesis to be investigated. The level of competitive involvement (Roberts et al., 1981; White & Duda, 1994; White & Zellner, 1996) is emerging as a variable noteworthy of more investigation. In general, results indicate that males in higher levels of competitive involvement score more highly in ego goal orientation. Also the higher the level of competitive involvement, the higher the level of perceived competence in sport.

Klint and Weiss (1987) have identified some difficulties involved in defining groups in the sport domain. In previous research the criteria for defining groups has been somewhat vague, ranging from 'non-participants' to elite sports-persons making meaningful comparisons difficult at best. To improve this situation in this research, the group of semi-elite sports-persons is a sub-group of the larger group of high school students assumed to represent a normal population of teenagers. The demographic characteristics of these groups (age and gender) are presented in Methods section in Table 1.

Perceived competence in the fitness domain involving different reference groups has received very little if any direct research attention. Nicholls (1989) maintains perceived competence is activity specific. Comparisons between different reference groups for perceived competence in sport and perceived competence in fitness may provide some
unique information for future research. It may provide an indication of whether or not perceived competence does or does not generalise between different achievement domains.

Summary

From the social cognitive perspective of motivational processes, two primary goal orientations (task and ego) are believed to influence behaviour. Most early research focused on the correlates of these two orientations within the domain of general education. Nicholls and Duda (1989, 1992) developed the TEOSQ to measure goal orientation in the domain of sport, and results have confirmed a stable two factor structure (task and ego). The issue of domain specificity versus cross situational generality was raised by Nicholls and Duda (1992), and their results indicated that goal orientation generalised across the achievement domains of general education and sport. From these findings they stated that an individual was likely to maintain a dispositional tendency to interpret an activity in a particular way regardless of their preference for the particular activity. Kimiecik et al. (1996) adapted the TEOSQ to measure the domain of fitness and also found a stable two factor structure (task and ego) and results were consistent with previous findings for the TEOSQ but the issue of generality was unresolved. Although results suggested that there was generality across various achievement domains consistent with the prediction of generality (Nicholls, 1989; Nichols & Duda, 1992), the issue remained unresolved. If this is valid, it has implications for the future
direction of research because a task orientation is believed to promote continued involvement in sport (Duda, 1996), and this may be true for other achievement domains.

Nicholls (1989) also considered that perceived competence would not generalise to the same extent as goal orientation because perceived competence was more activity-specific. However, because many of the competencies for sport and fitness are similar, it is predicted that there will be generality between the sport domain and the fitness domain for perceived competence.

Motivating involvement in sport and fitness has important social implications with regard to health and enjoyment of life. Little has been done to measure the extent of continued involvement in sport and fitness domains. Establishing reliable measures of this involvement has been problematic for researchers in as much as actual observation has logistical problems and self-report measures sometimes lack empirical validation. Four self-report measures of involvement in physical activity are further developed in this study to determine whether or not goal orientation and/or perceived competence can account for involvement in physical activity. Obviously, if goal orientation and/or perceived competence are good indicators of involvement in sport and fitness domains, then there will be ramifications for educators, coaches and health professionals alike.

In previous research gender and reference grouping have been identified as important variables in furthering our understanding of the nature of the relationship among goal orientation,
perceived competence and involvement in sport and fitness activities. Girls generally score higher than boys in task orientation, while boys generally score higher in ego orientation and perceived competence than girls. Chi and Duda (1995) suggested that the measurement properties and factor structure of the TEOSQ might change across different reference groups. They called for future research to compare groups that varied in gender, age and competitive level.
Method

Participants

The participants in this study were 291 teenagers from local public high schools and youth sport development squads. There were 160 males and 131 females. The average age was 14.9 years, with a standard deviation of 1.5 years.

Two West Australian senior high schools were sampled (one city and one country), and 110 participants responded to the 240 surveys distributed. Basketball, hockey and softball youth development squads were also surveyed, with 192 responses (129 basketball, 51 hockey and 12 softball) to the 250 surveys distributed. These sports were chosen for inclusion in the study because they were not gender-specific, and they enjoyed a high profile in Western Australia.

All participants were high school students. The semi-elite sport-persons' group was a sub-group of the larger group of high school students. Two respondents were deleted from analysis because they had left school and were unable complete the peer comparisons which required comparisons with other students. Eleven additional questionnaires were deleted before analysis due to errors and/or missing data.

Age and gender demographics were calculated for the two groups and the results are displayed in Table 1. No socioeconomic data were requested as this seemed inappropriate for high school students.
Table 1
Age and Gender Demographics for High School students and Semi-elite Sports-persons

<table>
<thead>
<tr>
<th>Grouping Variable</th>
<th>Gender</th>
<th>Count</th>
<th>Average Age</th>
<th>S.D.</th>
<th>Minimum Age</th>
<th>Maximum Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semi-elite sport</td>
<td>Male</td>
<td>112</td>
<td>14.89</td>
<td>1.35</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>77</td>
<td>15.22</td>
<td>1.67</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>High school students</td>
<td>Male</td>
<td>48</td>
<td>14.75</td>
<td>1.4</td>
<td>13</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>54</td>
<td>14.62</td>
<td>1.53</td>
<td>12</td>
<td>17</td>
</tr>
</tbody>
</table>

Measures
A packet containing a series of self-report questionnaires was sent individually to all members of the youth development squads. The high schools had 'home' groups which were made up of relatively equal numbers of students in years 8-12. Five 'home' groups from each high school were chosen to receive a packet of questionnaires.

The packet contained the following material:
1.) A cover page containing a statement about who was involved in conducting the research and an explanation of how the researcher had obtained the participant's name. There was also an explanation of the informed consent form and general information concerning the survey.
2.) An informed consent document.
3.) A demographic data sheet.
4.) Four measures of physical activity.
5.) The Task and Ego Orientation in Sport Questionnaire (TEOSQ; Duda 1989).
6.) A sport and fitness-orientated modification of the TEOSQ (Kimeicik et. al. 1996).

7.) A physical competence rating scale for sport (Harter 1978, 1982) and for fitness (Kimeicik et al. 1996).

Copies of all questionnaires are included in Appendix.

**Physical Activity Measures**

A seven-day recall format was used to assess activity level. Respondents were asked to rate their exercise as a weekly average, in terms of frequency (how many times a week) and duration (how long was each session). To help the teenagers recall their physical activity involvement for the week; the questionnaire contained examples of aerobic activities in which teenagers commonly engage. The six examples given were: jogging, bicycling, weightlifting, fast walking, skateboarding and swimming.

Response options for the frequency of physical activity were as follows: less than one, 1, 2, 3, 4, 5, 6, and 7. Response options for the duration of activity were: less than 10 min, 10-20 min, 20-30 min, 30-60 min, and more than 60 min.

The frequency and duration measures were subsequently combined into an index of weekly physical activity by multiplying the frequency category (0-7) by the duration category (1-5). The resulting variable had a possible range of 0-35.

The same procedure was used to assess weekly sport involvement, except that different examples were
provided. The examples given for sport were rugby, softball, basketball, hockey, golf, squash, netball, tennis and soccer. Categorical frequency and duration data (0-7, and 1-5, respectively) were once again combined multiplicatively to produce a continuous variable indicative of the level of involvement for each person.

In addition to this 7-day recall measure, the teenager's level of moderate to vigorous physical activity (M.V.P.A.) was assessed using two peer comparison questionnaires. In the first questionnaire the teenagers were asked to indicate how much exercise they engaged in across five different situations (before, during, and after school, on the weekends, and in general throughout the year) by comparing themselves with their same-sex peers. Exercise was defined as any physical activity that made their heart pump fast and made them breathe hard and sweat for at least 10 continuous minutes. Responses for each of the five situations were recorded on a five-point scale: 1 (much less), 2 (slightly less), 3 (about the same), 4 (slightly more), or 5 (much more) than their same-sex peers. Their ratings were averaged to create an index of activity level in relation to same-sex peers.

Kimiecik et al. (1996) found a relatively low Cronbach alpha coefficient of .65 for this 5-item measure of comparative physical activity. Examination of correlations between individual items in the scale showed that item 1 (Compared to other kids of the same sex in your class, how would you rate the amount of exercise you get before school?) exhibited a low correlation with the other items. Deletion of this item from the overall scale resulted in a more
acceptable alpha coefficient of .75. For this reason, the shortened four-item index was used for analysis in this study.

A second peer comparison questionnaire was also used. It was identical to the same-sex scale except that all peers (i.e. both boys and girls) were used for comparison purposes. Kimiecik et al. (1996) reported an alpha coefficient of .78 for this type of comparative measure, in a sample of 22 children. They also reported very good test-retest reliability over a one week period (r=.84).

Kimiecik et al. (1996) addressed the uniqueness of their three physical activity measures. They found only low to moderate correlation between the personal recall measure and the two peer comparison measures (Same sex: r = .22; All peer: r = .34). There was a moderate correlation (r = .60) between the two peer comparison measures. These relatively modest correlations suggest that each measure may provide some unique information.

**Physical Competence Rating Scales**

Selected items from the physical competence sub-scale of Harter's Perceived Competence Scale for Children (P.C.S.C; Harter, 1982) were used to assess perceptions of sport competence and fitness competence. In an effort to orientate Harter's P.C.S.C. more towards fitness ability rather than the more restricted domain of sport, Kimiecik et al. (1996) adapted the scale to reflect a fitness orientation. They added items chosen to reflect five components of health-related fitness: cardiovascular endurance, flexibility, muscular strength, muscular endurance, and body fat (Caspersen, Powell, &
Christensen, 1985), as well as general perceptions of fitness competence. A total of 13 questions were used, with 5-items referring to sports competence and 8-items referring to fitness competence. Responses were made according to Harter’s original structured alternative format. Specifically, for each item the participants were provided with two alternative responses, and they were required to choose one. For each pair of alternative statements, the teenagers were required to indicate which statement was most like them. They did so by indicating whether the statement was 'really true for me' or 'sort of true for me. Items were scored on a four-point scale with higher scores representing higher perceived competence.

Responses were summed separately for both sport (5 items) and fitness (8 items) and then divided by the number of items in the sub-scale. The resultant scores provided estimates of each person’s perceived competence in sport and fitness activities. These scores could range from one to four.

Task and Ego Orientation Questionnaires

Two scales were used to assess achievement goal orientations:

1.) The Task and Ego Orientation in Sport Questionnaire (TEOSQ; Duda, 1989; Duda & Nicholls, 1992).

2.) A fitness-specific modification of the TEOSQ (Dempsey et al., 1993; Kimiecik et al., 1996).

The TEOSQ is a 13-item questionnaire that asks participants to indicate what makes them feel successful in sport settings. A 5-point Likert type
response format is typically used, ranging from 1 (strongly disagree) to 5 (strongly agree). The 13 items can be categorised as reflecting either a Task orientation (e.g. I feel most successful in sports when....I really work hard, or I do my best) or an Ego Orientation (e.g. I feel most successful in sport when....I perform a skill better than my friends, or I am the best). There are 6 items that relate to Task orientation and 7 items that relate to Ego orientation.

The fitness-specific modification of the TEOSQ used the same structure as the original TEOSQ. Kimiecik, Horn and Shurin (1996) developed this adaptation of the TEOSQ to determine what makes people feel successful in a fitness testing situation. As with TEOSQ, there are 6 task-orientated items and 7 ego-orientated items. Examples of Task-orientated items are:
I would feel most successful in fitness testing if ....
I just felt good about my fitness score.
I worked really hard to get better at the test.
I improved a lot from the last time the test was given.
Examples of Ego-orientated items are:
I would feel most successful in fitness testing if ....
I was the only one who could do one of the tests.
Other kids didn’t do so well, but I did.
I got the highest score in the class.

As with the original scale, responses were made on a 5-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree).
Both the TEOSQ and the fitness-specific modification contained a general question concerning how successful the participant thought he/she would be next year. These items employed a 7-point Likert-type response format, ranging from 1 (not successful at all) to 7 (highly successful).

**Procedure**

Human rights approval for the project was obtained from the Research Administration Unit of The University of Western Australia. A copy of the approval form is included in the Appendix. The researcher then approached the sport organisations concerned (in-person where possible but occasionally by phone). All sports organisations contacted provided mailing lists. A copy of the letter sent to the sports organisations is also included in the Appendix. On receipt of the mailing lists, survey packets were mailed to all names on the lists. Because of financial constraints only one mailing was done, with no follow up.

The researcher also approached two senior high schools, in person, to get permission to distribute the same surveys to students in years 8-12. West Australian senior high schools have a system of 'home' groupings, which consist of a relatively equal mixture of grades and gender. At each high school, 150 survey packets, in bundles of 30, were distributed within selected 'home' groups. The survey packets were distributed and collected internally by school staff.
Data Analysis Procedures

Descriptive statistics were calculated for all primary variables with means, standard deviations, minimums, maximums, and counts presented. Pearson's correlation coefficient analyses were conducted between all primary variables. Cohen's 'd' was calculated for all significant correlations in order to provide an estimate of effect size. Analysis of variance across gender and reference group comparing goal orientation and perceived competence was conducted. A significance level of .05 was used throughout the study.
RESULTS

Descriptive Statistics

Descriptive statistics for the primary variables in the study are presented in Table 2.

Table 2.
Means and Standard Deviations: Goal Orientation, Perceived Competence and Four Measures of Involvement in Sport and Fitness Activities.

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Note: Range in scores for Goal Orientation is from 1 to 5, for Perceived Competence is from 1 to 4, for sport and fitness Involvement is from 0 to 35, and for MVPA (peers and same sex) is from 0 to 20. MVPA = amount of moderate-to-vigorous physical activity in comparison to specific reference groups

Bivariate Correlational Analyses

Pearson's correlational analyses were conducted to examine the relationship between goal orientations, perceived competence, involvement in sport-related activity, involvement in fitness-
related activity and the two peer comparison measures. The correlations are presented in Table 3.

**Table 3**

**Correlation Coefficients:** Sport Task and Ego Orientation, Fitness Task and Ego Orientation, Sport Perceived Competence, Fitness Perceived Competence, and Four Measures of Involvement in Sport and Fitness Activities.

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Note: (Coefficient / (cases) / 2-tailed Significance)

". " is printed if a coefficient cannot be computed.

**Generalisation of Goal Orientation and Perceived Competence**

The correlation between sport task orientation and fitness task orientation was \( r = 1.000 \), \( p=0.00, d=1.72 \). The correlation between sport ego
orientation and fitness ego orientation was $r(291) = .766$, $p = .001$, $d = 2.38$. Wolf (1986) states that a Cohen's 'd' of .80 or greater indicates a meaningful relationship. These results support the first hypothesis, in that there was a significant and meaningful relationship between sport task orientation and fitness task orientation, as well as between sport ego orientation and fitness ego orientation.

The correlation between perceived sport competence and perceived fitness competence was $r(291) = .657$, $p = .001$, $d = 1.74$. Again Cohen's 'd' indicates a meaningful relationship between perceived sport competence and perceived fitness competence.

Goal Orientations, Perceived Competence and Involvement in Sport and Fitness Activities

The degree to which the four measures of involvement in sport and fitness activities correlate with goal orientation and perceived competence are presented in Table 3.

Correlations for fitness task orientation with all four measures of involvement in sport and fitness activities were as follows:

Fitness task orientation and fitness involvement, $r(291) = .135$, $p = .021$, $d = .27$.
Fitness task orientation and sport involvement, $r(291) = .256$, $p = .001$, $d = .53$.
Fitness task orientation and all peers comparison, $r(291) = .180$, $p = .002$, $d = .36$.
Fitness task orientation and same sex comparison, $r(291) = .251$, $p = .001$, $d = .51$. 
Correlations for sport task orientation with all four measures of involvement in sport and fitness activities were as follows:

Sport task orientation and fitness involvement, $r(291) = .159$, $p = .007$, $d = .32$.

Sport task orientation and sport involvement, $r(291) = .239$, $p = .001$, $d = .49$.

Sport task orientation and all peers comparison, $r(291) = .202$, $p = .001$, $d = .42$.

Sport task orientation and same sex comparison, $r(291) = .303$, $p = .001$, $d = .63$.

Cohen's 'd' for fitness task orientation and the measures of involvement in sport and fitness activities and also sport task orientation and the measures of involvement in sport and fitness activities range between small ($d = .20$) effect size and medium ($d = .50$) effect size and suggest some meaningful relationships.

Correlations for fitness ego orientation and the measures of involvement in sport and fitness activities were as follows:

Fitness ego orientation and fitness involvement, $r(291) = -.021$, $p = .728$.

Fitness ego orientation and sport involvement, $r(291) = .230$, $p = .001$, $d = .48$.

Fitness ego orientation and all peers comparison, $r(291) = .239$, $p = .001$, $d = .49$.

Fitness ego orientation and same sex comparison, $r(291) = .218$, $p = .001$, $d = .47$.

Correlations for sport ego orientation and the measures of involvement in sport and fitness activities were as follows:

Sport ego orientation and fitness involvement, $r(291) = -.009$, $p = .880$. 
Sport ego orientation and sport involvement, $r (291) = .230, p = .001, d = .48$.

Sport ego involvement and all peers comparison, $r (291) = .240, p = .001, d = .49$.

Sport ego orientation and same sex comparison, $r (291) = .191, p = .001, d = .41$.

Cohen's 'd' for fitness ego orientation and the measures of involvement in sport and fitness activities and also sport ego orientation and the measures of involvement in sport and fitness activities range between $d = .47$ and $d = .49$ represent a medium effect size and suggest some meaningful relationships.

Perceived competence was revealed to be a much better indicator of involvement in sport and fitness activities than goal orientation. Correlations between perceived fitness competence and the various measures of involvement in sport and fitness activities were as follows:

Perceived fitness competence and fitness involvement, $r (291) = .292, p = .001, d = .61$.

Perceived fitness competence and sport involvement, $r (291) = .486, p = .001, d = 1.11$.

Perceived fitness competence and all peers comparison, $r (291) = .555, p = .001, d = 1.34$.

Perceived fitness competence and same sex comparison, $r (291) = .607, p = .001, d = 1.53$.

Perceived sport competence and all the measures of involvement in sport and fitness were as follows:

Perceived sport competence and fitness involvement, $r (291) = .257, p = .001, d = .53$.

Perceived sport competence and sport involvement, $r (291) = .572, p = .001, d = 1.39$. 
Perceived sport competence and all peers comparison, $r(291) = .624$, $p = .001$, $d = 1.59$.

Perceived sport competence and same sex comparison, $r(291) = .682$, $p = .001$, $d = 1.86$.

Cohen's 'd' for perceived fitness competence and the measures of involvement in sport and fitness activities and also for perceived sport competence and the measures of involvement in sport and fitness activities ranged from $d = .53$ to $d = 1.88$. The variable fitness involvement resulted in a medium effect size, which suggests some relationship but all the other measures of involvement in sport and fitness activities had a large effect size and suggest meaningful relationships.

Groups and Gender Differences

The remaining hypotheses stated that males and females, and also semi-elite teenage sport-persons and high school students, would differ in goal orientation and perceived competence. Means and standard deviations relevant to these hypotheses are presented in Table 4. The results of an analysis of variance comparing goal orientation and perceived competence across gender and reference group are presented in Table 5.

Findings revealed significant gender differences for fitness task goal orientation; $F(1, 287) = 9.24, p = .003$, and for sport ego goal orientation; $F(1, 287) = 9.44, p = .002$. Inspection of the means (Table 3) revealed that females scored higher in task orientation than males and males scored higher in ego orientation than females which is consistent with previous findings.
Results for perceived competence (Table 5) revealed significant gender differences for perceived fitness competence; $F(1, 287) = 6.83, p = .009$, and for perceived sport competence; $F(1, 287), p = .049$. Inspection of the means revealed that males scored higher in perceived sport competence than females and females scored higher in perceived fitness competence than males.

Table 4

Gender and Reference Group: Means and Standard Deviations

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<th>FitTask</th>
<th>SprtEgo</th>
<th>FitEgo</th>
<th>SprtCom</th>
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Table 5

**Analysis of Variance:** Goal orientation and perceived competence for males vs females and semi-elite teenage sport-persons vs other high school students.

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The final hypothesis stated that semi-elite teenage sport-persons and high school students would differ in goal orientation across the sport and fitness domains. Analysis of variance comparing these reference groups (Semi-elite sport-persons vs high school students) revealed significant differences for all measures (Table 5). Inspection of the means (Table 4) indicated that the semi-elite sport-persons were higher than the high school students on all achievement goal orientation scales.

Hypothesis four also stated that semi-elite sports-persons and high school students would differ in perceived competence. Analysis of variance revealed that semi-elite sports-persons were significantly higher in both perceived sport competence; $F (1, 287) = 93.22, p = .001$ and perceived fitness competence; $F (1, 287) = 84.73, p = .001$.

Of the two way interactions between gender and group only the interaction for sport perceived competence was significant; $F (1, 287) = 8.46, p = .004$. The means of the four sub-groups involved are presented in Table 6 and displayed in the accompanying graph. Inspection of the data suggests that male and female sport-persons did not differ in perceived sport competence. However, within the student subgroup, males tended to have higher perceived sport competence than females.
**Table 6.**


<table>
<thead>
<tr>
<th>Gender and Reference Group</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male sport-person group</td>
<td>3.49</td>
<td>.37</td>
</tr>
<tr>
<td>Male high school group</td>
<td>3.11</td>
<td>.59</td>
</tr>
<tr>
<td>Female sport-person group</td>
<td>3.54</td>
<td>.12</td>
</tr>
<tr>
<td>Female high school group</td>
<td>2.83</td>
<td>.33</td>
</tr>
</tbody>
</table>

![Graph showing means and standard deviations for male and female groups for sport and student perceived competence.](image)
Discussion

Achievement goal orientation and perceived competence were examined across fitness and sport domains to assess whether or not goal orientation and perceived competence generalised across achievement domains. Background factors of gender and reference group (ie. semi-elite sports persons and high school students) were investigated to further clarify this relationship. Achievement goal orientation and perceived competence were also investigated as an indicator of involvement in sport and fitness activities.

Results from this research found the correlation between sport task orientation and fitness task orientation was $r (291) = .653, p = .001, d = 1.72$. The correlation between sport ego orientation and fitness ego orientation was $r (291) = .766, p = .001, d = 2.38$. Wolf (1986) states that a Cohen's 'd' of .80 or greater indicates a strong and meaningful relationship. These results support Nicholls' assertion that goal orientation generalises across achievement domains and reflect Duda's contention that task and ego goal orientations are dispositional tendencies to interpret an achievement activity in a particular way irrespective of the particular achievement domain. However in light of the limited research directly related to this issue, there is a need for more research to support Nicholls' theoretical position.

Duda and Nicholls (1989,1992) developed the Task and Ego Orientation in Sport Questionnaire (TEOSQ) to investigate goal orientation in a sport context. A central assumption of Nicholls' goal
orientation theory is that goal orientation generalises across achievement domains. Weiner (1990) had suggested that there is little generality across domains, but Duda and Nicholls' (1992) research in the achievement domains of education and sport, supported the concept of generalisation of goal orientation across the achievement domains of general education and sport. Dempsey et al. (1993) and Kimiecik et al. (1996) extended achievement goal orientation into the fitness domain with an adaptation of the TEOSQ. Although their results were consistent with sports related studies using the TEOSQ, the issue of generalisation remained unresolved.

Research by Duda (1996) and Duda et al. (1995) extended the focus of achievement goal orientation in the sport domain from the individual to the learning environment. Duda's (1996) case for task orientation appears to be a major call for investigation of motivational climate/learning environment to enhance achievement goal orientation in the sport domain. The work on classroom climate of Ames (1984, 1992) that called for a task orientated motivational climate in the domain of general education directly influenced Duda's (1996) work in the area. When Duda (1996) put a case for task orientation as an intervention in sport, it was not a situation of either a task or an ego goal orientation as suggested by Hardy (1997). It was an acknowledgment that without a strong task orientation sustainable and successful involvement in achievement domains may be difficult for most youth to maintain. Social values such as cooperation, effort and skill development expressed in task goal
orientation have more relevance with modern education and coaching systems.

In Australian education (including sport and physical education) there is currently a strong movement towards outcome based learning programs where success in learning is self-referenced rather than based on normative position. Promotion of self-referenced development (task orientation) rather than comparison with others (ego orientation) is being seen as a better strategy for improving achievement related success for youth. Part of the rationale for this is that the success of others doesn't undermine any personal feelings of success in self-referenced achievement. Consequently, a positive social environment of cooperative behaviour can be created and maintained. Ames (1992), Duda (1996) and Nicholls (1989) all consider a positive social environment to influence and enhance an individual's dispositional goal orientation. In normative comparisons it is difficult for most youth to feel successful and competent because only one or two can be the 'best'. If generality of achievement style is supported across various achievement domains, there is a strong case for promoting a task orientation in all achievement situations where youth are involved including schools, sport and fitness clubs. A style of learning that is dominated by normative comparisons logically will result in many individuals feeling unsuccessful and incompetent whereas a style of learning characterised by cooperation, self-reflection, effort and skill development will help ensure more individuals feel competent and achieve success.
Previous research has reported that the individuals most at risk in terms of continued involvement are those who score low in task orientation and high in ego orientation. That is to say an individual whose conception of success is in terms of normative comparisons with other individuals (ego orientation) and who has little or no self referenced notion of success (task orientation). When such an individual is faced with competitive failure (form slump etc.) he/she may not have any utilisable basis for working towards future success. Individuals who are high in task orientation (irrespective of their ego orientation) have, in the face of competitive failure, self-referenced concepts (i.e., skill improvement, practice/effort and strategy improvement) of success to develop until 'winning form' or success returns.

Task and ego orientation may have a similar degree of influence in motivating involvement in the sport and fitness domains. Results in this research support this position, but the demonstrated orthoganality of task and ego goal orientation suggest that the influence of each is quite different.

The generalisation of achievement goal orientation across achievement domains and the promotion of a task goal orientated learning environment are significant issues worthy of further research. These have implications for all involved in the education and coaching/training of youth, especially if the continued involvement in the sport and fitness domains of as many youth as possible is an important consideration.
Significant generalisation was expected between perceived competence for sport and fitness domains. In this research the correlation between sport perceived competence and fitness perceived competence was $r (291) = .657$, $p = .001$, $d = 1.74$. A Cohen's 'd' of 1.74 represents a strong and meaningful relationship. Perceived competence theory (Harter, 1978, 1982) asserts that perceptions of competence are associated with subsequent motivation to participate (Klint & Weiss, 1987). Nicholls (1989) suggested that goal orientation was more likely to generalise across achievement domains than perceived competence, because he considered perceived competence to be more domain specific than goal orientation. In other words, an individual may carry a particular goal orientation into all achievement domains, even though perceived competence and the desire for success in particular domain may vary considerably. In other words perceived competence is more activity specific and therefore less likely to generalise across achievement domains. Logic and common sense suggests this is a reasonable assumption but in the results of this research there was considerable similarity in perceived competence for sport and fitness domains. It is disputable however, whether or not this finding contradicts Nicholls' (1992) assertion about the generalisation of perceived competence across achievement domains. Perceived competencies required for success may be more similar across sport and fitness domains than across other achievement domains, or there may be a case for the proposition that perceived competence does
generalise across various achievement domains and is a more generalised concept than previously considered.

In conclusion, results found in this study add support for the generality of goal orientation across achievement domains and raise a question as to the generality of perceived competence across achievement domains.

Goal Orientation, Perceived Competence and Involvement in Sport and Fitness Activities

The relationships among goal orientation, perceived competence, and involvement in sport/fitness activities have important practical implications. There is huge interest in youth involvement in sport and fitness activities, and anything that furthers our understanding in this respect deserves continued research. However, although this is an important focus for achievement motivation research, very little attention has been focused on the relationship between goal orientation and perceived competence and involvement in sport and fitness activities. Dempsey et al. (1993) reported that gender and task orientation were positively associated with moderate to vigorous physical activity. Kimiecik et al. (1996) found perceived fitness competence and task orientation to be strongly associated with self-reports of moderate to vigorous physical activity, especially when comparing themselves to their peers.

In this study, correlations for fitness task orientation with all four measures of involvement in sport and fitness activities were significant and
positive with Cohen's 'd' revealing a small to medium effect size. Correlations for sport task orientation with all four measures of involvement in sport and fitness activities were significant and positive with results of Cohen's 'd' being similar to the results for fitness task orientation.

Although the effect sizes were only small to moderate, the consistent positive direction of these relationships supports Duda's (1993, 1996) argument for greater task involvement in order to maximise motivation in sport. It also suggests a positive behavioural pattern should be evident when people are task orientated.

Except for the variable "involvement in fitness activities" which was not significant correlations for fitness ego orientation among the measures of involvement in sport and fitness activities were significant and positive. Similar to fitness ego orientation, except for the variable "involvement in fitness activities" which was also not significant, correlations for sport ego orientation and the measures of involvement in sport and fitness activities were significant and positive. Cohen's 'd' revealed medium effect size for all significant interactions.

Results for Ego goal orientation and involvement in sport activities can be interpreted in terms of attributes purported to underlie ego goal orientation. In ego goal orientation, demonstration of superiority and beating others with a minimum of effort, are indicators of success and sport activities provide opportunity to demonstrate superiority in comparison with their peers. The two peer comparisons, used in this
study, require normative evaluation which may account for the similar results between task and ego orientation.

The absence of a significant relationship between sport ego orientation, fitness ego orientation and involvement in fitness activities supports Nicholls' (1989) achievement orientation theory. Previous research (Duda, 1992, 1996; Duda and Nicholls, 1992) has consistently demonstrated the lack of relationship between effort and ego goal orientation. Fitness activities are arguably more self-referenced than sport activities, and they emphasize effort rather than the demonstration of superiority over others. As an indicator of success, fitness activities may therefore be a low priority for ego goal orientated individuals.

Sport perceived competence and fitness perceived competence had a stronger relationship with the measures of involvement in sport and fitness activities than achievement goal orientation (Table 3). Relationships between perceived fitness competence and all the measures of involvement in sport and fitness activities were significant and positive. Similarly, relationships between perceived sport competence and all the measures of involvement in sport and fitness activities were significant and positive. Large effect sizes were evident for 6 of the 8 relationships, while moderate effect sizes were evident for the remaining two. The moderate relationships were between perceived fitness competence and involvement in fitness activities and between perceived sport competence and involvement in fitness activities. These substantial and consistent relationships between perceived competence and the
involvement in sport and fitness obviously deserve further research attention given the importance of an active lifestyle to health and social development.

The somewhat smaller effect sizes for the relationships between perceived sport/fitness competence and involvement in fitness activities could be related to the age of the population surveyed (average age, 14.9 years; sd., 1.5 years). 'Keeping fit' may be more relevant to an older population where there is more interest in the perceived health benefits of fitness rather than competitive interaction with their peers.

The development of more accurate measures of involvement in sport and fitness activities, with specific reference to age, gender and reference group differences, may further our understanding of achievement goal orientation and perceived competence as indicators of involvement in sport and fitness activities. In addition, replication of the current findings is important, especially with regard to the results for perceived competence.

**Differences Among Groups**

It was predicted that males and females would differ in goal orientation within both the sport and fitness domains, since most previous research has found gender differences along these lines (Duda, 1989; Duda et al., 1995; White & Duda, 1994; Roberts & Treasure, 1995). The results of these prior studies suggest that females are higher than males in task orientation, and males are higher than females in ego orientation.

Analysis of variance for goal orientation by gender (Table 5) revealed significant differences for
fitness task orientation ($p = .003$), and for sport ego orientation ($p = .002$). There were no significant effects of gender for sport task orientation or for fitness ego orientation. Inspection of the means revealed that females scored higher than males in sport task orientation and in fitness task orientation and males scored higher than females in sport ego orientation. These results support the findings of previous research. White and Duda (1994) reported that males were more concerned about demonstrating ability in competitive contexts than females.

It was also predicted that males and females would differ in perceived sport competence as well as perceived fitness competence. Analysis of variance of perceived competence ratings (Table 4) revealed significant gender differences for perceived sport competence ($p = .049$), and for perceived fitness competence ($p = .009$). Males scored higher than females in perceived sport competence, and females scored higher than males in perceived fitness competence. Previous research (Brustad, 1993; Duda et al. 1995; Williams & Gill, 1995) has reported gender differences for sport perceived competence. The general finding was that males were significantly higher in perceived sport competence than females. These findings are consistent with the results in this study for perceived sports competence. However, our finding that perceived fitness competence was higher among females than males was unique. Previous studies of perceived fitness competence (Dempsey et al., 1993; Kimiecik et al., 1996) did not examine gender differences. Again the relative unimportance of
competition in fitness activities when compared to sport may be a possible reason, and further research is needed to clarify this result.

Finally, it was predicted that semi-elite teenage sport-persons and high school students would differ in goal orientation within the sport and fitness domains. White and Duda (1994) reported that males involved in higher levels of competitive sport were significantly higher in ego orientation than those involved at lower levels, while there was no significant effect of competitive level for task orientation. White and Zellner (1996) reported that high school athletes were higher in ego orientation than intercollegiate athletes.

Our findings revealed significant differences across reference groups for all goal orientation measures. Inspection of the means (Table 4) showed that the semi-elite sport-persons group was higher than the high school student group for sport task orientation, sport ego orientation, fitness task orientation, and fitness ego orientation. While these results are, to some extent, consistent with those of White and colleagues (e.g., White & Duda, 1994; White & Zellner, 1996), direct comparisons are difficult to make because of the varying definitions for the groups involved.

It was also considered that semi-elite sports-persons and high school students would differ in perceived competence across the sport and fitness domains. Roberts et al. (1981) found that sports participants were higher in perceived competence than non-participants in sport, but the relationship was not strong. Klint and Weiss (1987) have identified some difficulties involved in defining groups in the sport
domain. Criteria for defining groups in previous research are somewhat vague ranging from 'non-participants' to elite sports-persons, which makes meaningful comparisons difficult at best. This study used a group from a 'normal' population (high school students) for comparisons with a group of semi-elite sport-persons (state level, development squads) which was a sub-group of the population of high school students. We found that semi-elite sport-persons were significantly higher in both sport perceived competence ($p = .001$) and fitness perceived competence ($p = .001$) than the high school students. Although gender and reference group generally had independent effects on goal orientation and perceived competence, there was one instance in which an interaction was evident. Specifically, a significant two-way interaction was observed for perceived sport competence ($p = .004$). Inspection of the data suggested that male and female sport-persons did not differ in perceived sport competence. However, within the student subgroup, males tended to have higher perceived sport competence than females. Given the observed connection between involvement and perceived competence, this finding suggests that one way of developing feelings of competence among female high school students may be to encourage a variety of low-level sport involvements.
Conclusion

There was significant generalisation between the sport and fitness domains for task achievement goal orientation, ego achievement goal orientation, and also for perceived competence. Results supported Nicholls' (1989) goal orientation theory argument that achievement goal orientation generalises between achievement domains and also Duda's (1993) contention that a task orientation should enhance the probability that a person feels competent.

Goal orientation theory (Nicholls, 1989) asserts that perceived competence is less likely to generalise across achievement domains than goal orientation. This assertion was not supported by results found in this study, which demonstrated strong generalisation between the sport and fitness domains for perceived competence. Perceived competence was revealed as a much stronger indicator of involvement in sport and fitness activities than either task or ego achievement goal orientation. The finding here that perceived competence can explain up to 46% of variance of involvement in sport and fitness activities, makes developing perceived competence in a socially sustainable and positive way an important issue.

Although perceived competence correlated significantly with all goal orientation variables, the strength of these correlations was weak accounting for only 9% of explained variance in the strongest correlation. This suggests that perceived competence, task goal orientation and ego goal orientation all offer something unique in determining involvement and participation in sport
and fitness activities. In agreement with Duda (1993, 1996) it is considered that increasing task orientation is a practical intervention to improve competence, involvement and participation in sport and fitness activities in a socially positive manner. Having said that ego goal orientation and especially perceived competence have to be considered in the light of results found here to more fully understand the nature of involvement and participation in sport and fitness activities.

The interaction of gender and reference group revealed that females in semi-elite sport groups scored highest in perceived sport competence. These youth came from state development squads where skill development and team skills are most important. Also, the three sports surveyed (hockey, basketball and softball) enjoy a high profile in Western Australian sport These youth were also higher in task orientation and ego orientation than the group of high school students.

In a final summation although significant, the relatively low correlations among task orientation, ego orientation and perceived competence suggests that an individual can score highly on all scales and results found in this study support this. Enhancement of all may be what is needed to maximise continued involvement at higher competitive levels of sport and fitness domains and an emphasis on task orientation may be the best strategy for maximising overall involvement (the most number of people) in sport and fitness activities.

Clarification of these issues raised here may help future researchers better understand why
today's youth are and continue to be involved in sport and fitness activities.
References


and exercise (pp. 57-91). Champaign, IL: Human Kinetics.


Appendix
April 1997

Subject: Research Project on Young People’s Involvement in Sport and Exercise

From: J.R. Grove, Department of Human Movement, UWA

The Department of Human Movement at the University of Western Australia is participating in a worldwide study of young people’s involvement in sport and exercise. Researchers from Australia, the United States, England and New Zealand are involved in the study.

Your name has been provided by one of several local sporting organizations that are cooperating with us on this project.

Enclosed please find a consent form and a set of questionnaires that we would like you to complete and return to us at your earliest convenience. A brief explanation of the research project appears on the consent form.

Essentially, we are interested in learning how much involvement young people like yourself have in sport and exercise activities, how important this involvement is to you, why you choose to be involved, and how your parents feel about your involvement. It will take you about 30 minutes to supply the information that we want.

As noted on the consent form, you are under no obligation to provide this information. However, we would appreciate your involvement in the study, because we believe the findings will help us to make sport and exercise activities more attractive to other young people.

If you want further information or you have questions about this project, please feel free to contact me at the address on this letterhead.

Sincerely,

J.R. Grove
FORM OF DISCLOSURE AND INFORMED CONSENT

Title of Project

Involvement of 13-18 Year-Olds in Sport and Exercise

Purpose, Methods, and Time Commitments

This study seeks to increase our understanding of how much involvement young people have in sport/exercise and the reasons for their involvement. You will be asked to complete a series of questionnaires related to your sport and exercise activities, the way you view your involvement, and how your parents feel about your involvement. It will take you about 30 minutes to provide the information that we require.

Benefits

Your participation in this project will help you to better understand the reasons why you participate in sport/exercise and how important these activities are in your life. It will also make you aware of what your parents think about your involvement.

Your Rights as a Participant

1. You are free not to participate. Refusal to take part in the study will not have any negative consequences.

2. If you decide to participate, you may withdraw your consent and discontinue participation at any time.

3. You will not be exposed to any physical, psychological, or personal risks as a result of your participation.

4. The researchers will answer any questions you (or your parents) have about the study at any time. Questions should be directed to:

   Dr. Robert Grove or Mr. Darrell Grant
   Department of Human Movement
   The University of Western Australia

   Phone: 09-380-2361 (Grove)
           (097) 542967 (Grant)

PLEASE GO TO THE NEXT PAGE AND SIGN THIS FORM
A PARENT OR GUARDIAN MUST ALSO SIGN THE FORM IF YOU ARE LESS THAN 17 YEARS OF AGE
I, (print your name here) ____________________________, have read the information above, and I agree to participate in this project, realising that I may withdraw at any time.

I agree that research data gathered for this study may be published provided my name is not used. I also understand that I am not entitled to payment for my participation.

__________________________________________________________   ____________________________
Signature of Participant                                          Date

__________________________________________________________   ____________________________
Signature of Parent or Guardian                                  Date
(Required if less than 17 years of age)

__________________________________________________________   ____________________________
Signature of Investigator                                         Date
PARTICIPATION IN SPORT AND PHYSICAL ACTIVITY STUDY

General Instructions

We are interested in studying the different physical activities that people participate in as well as their attitudes and feeling about these activities. Therefore, you will be asked to complete a series of questionnaires concerning your participation in competitive sport and physical activity. All information will be confidential and therefore you are not being asked to put your name on the surveys. It is important that you answer the questions in a truthful manner since there are no right or wrong answers. We simply want to know about your experiences in competitive sport and physical activity. Read the different questionnaires carefully and follow the instructions at the top of each questionnaire. Before you start reading the questionnaires, please answer the few questions on this cover sheet. We very much appreciate your help. Please note that most questionnaires are front to back so be sure to look on the back of each page.

GENDER: Male _____ Female _____

COUNTRY: United States _____ Australia _____ New Zealand _____

AGE ___

HEIGHT ___

WEIGHT ___

Years in Competitive Sport ____________

What is the highest level you have played in competitive sport ____________________________________________________________________

What Competitive Sports Have You Played, How Long Have You Played Each Sport and if you plan to continue to play?

SPORT PLAYED YEARS PLAYED PLAN TO CONTINUE PLAYING? YES/NO
HOW MUCH DO I EXERCISE THROUGHOUT THE YEAR?

Use the following definition of exercise to guide your responses to these questions:

*Exercise is any physical activity that gets your heart pumping fast and makes you breath fast and sweat for at least 10 continuous minutes.*

I. Compared to other kids of the same sex in your class, how would you rate the amount of exercise you get:

<table>
<thead>
<tr>
<th></th>
<th>much less</th>
<th>slightly less</th>
<th>about the same</th>
<th>slightly more</th>
<th>much more</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Before school (e.g., sports practice, biking to school)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. During school (e.g., during lunch and in physical education class)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. After school (e.g., vigorous sport participation, playing outdoors)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. On the weekends (e.g., club sports games, bicycling or walking with your family, vigorous sports with friends)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

5. In general, compared to other kids of the same sex in your class, how much exercise do you get throughout the year?

<table>
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<th>1  much less exercise</th>
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<tr>
<td>2  slightly less exercise</td>
</tr>
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</tr>
<tr>
<td>4  slightly more exercise</td>
</tr>
<tr>
<td>5  much more exercise</td>
</tr>
</tbody>
</table>

II. Compared to both boys and girls in your class, how would you rate the amount of exercise you get:

<table>
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<tr>
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<tr>
<td>4  slightly more exercise</td>
</tr>
<tr>
<td>5  much more exercise</td>
</tr>
</tbody>
</table>
How Much Do I Exercise Throughout the Year

We would like to know how often as well as how long you participate in some activities throughout the year. Please circle the answer that best describes your participation. For example, if you usually participate in these types of activities 3 times each week then circle "3". If you do these activities for 20-30 minutes then circle "20-30 min".

1. On the average (in general) how many times do you participate in physical activity/exercise such as jogging, bicycling, weightlifting, fast walking, skateboarding, swimming, etc. each week? (please circle)

   less than one  1  2  3  4  5  6  7

2. On the average (in general) how long do you participate in the above activities? (circle)

   less than 10 min  10-20 min  20-30 min  30-60 min  more than 60 min

3. On the average (in general) how often do you participate in sports activities such as rugby, softball, cricket, basketball, hockey, golf, squash, netball, tennis, soccer, etc. each week? (please circle)

   less than one  1  2  3  4  5  6  7

4. On the average (in general) how long do you participate in the above activities? (circle)

   less than 10 min  10-20 min  20-30 min  30-60 min  more than 60 min
WHAT IS SPORT SUCCESS?

When do you feel most successful in sport? In other words, when do you feel a sport activity has gone really well for you?

I feel most successful in sport when....... Strongly Disagree Disagree Neutral Agree Strongly Agree

1. I am the only one who can do a particular skill or play.
   1  2  3  4  5

2. I learn a new skill which makes me want to practice more.
   1  2  3  4  5

3. I perform a skill better than my friends.
   1  2  3  4  5

4. Other kids cannot do something as well as I can.
   1  2  3  4  5

5. I learn something that is fun to do.
   1  2  3  4  5

6. Other kids mess up, and I don’t.
   1  2  3  4  5

7. I learn a new skill by trying hard.
   1  2  3  4  5

8. I work really hard.
   1  2  3  4  5

9. I score the most points/goals or win the most competitions.
   1  2  3  4  5

10. I learn something and it makes me want to go and practice more.
    1  2  3  4  5

11. I am the best.
    1  2  3  4  5

12. I learn a skill which makes me feel really good.
    1  2  3  4  5

13. I do my very best.
    1  2  3  4  5

14. On the scale below, please show us how successful you think you will be in sports next season.

Not at all successful Not very successful Maybe a little successful Somewhat successful Mostly successful Really quite successful Highly successful

1  2  3  4  5  6  7
WHAT IS SUCCESS IN FITNESS TESTING?

Assume that you have taken a fitness test at school. This fitness test measures your level of cardiovascular endurance, flexibility, muscular strength, muscular endurance, and body composition.

What would make you feel most successful in fitness testing? In other words, when would you feel a fitness test has gone really well for you?

I would feel most successful in fitness testing if......

1. I was the only one who could do one of the tests. 
   - Strongly Agree: 5
   - Agree: 4
   - Neutral: 3
   - Disagree: 2
   - Strongly Disagree: 1

2. I improved a lot from the last time the test was given. 
   - Strongly Agree: 5
   - Agree: 4
   - Neutral: 3
   - Disagree: 2
   - Strongly Disagree: 1

3. I performed better than my friends. 
   - Strongly Agree: 5
   - Agree: 4
   - Neutral: 3
   - Disagree: 2
   - Strongly Disagree: 1

4. Other kids in the class did not do as well as I did. 
   - Strongly Agree: 5
   - Agree: 4
   - Neutral: 3
   - Disagree: 2
   - Strongly Disagree: 1

5. I learned to do one of the tests better than before. 
   - Strongly Agree: 5
   - Agree: 4
   - Neutral: 3
   - Disagree: 2
   - Strongly Disagree: 1

6. Other kids didn't do so good, but I did. 
   - Strongly Agree: 5
   - Agree: 4
   - Neutral: 3
   - Disagree: 2
   - Strongly Disagree: 1

7. I worked really hard to get better on the test. 
   - Strongly Agree: 5
   - Agree: 4
   - Neutral: 3
   - Disagree: 2
   - Strongly Disagree: 1

8. I tried hard to do well on the test. 
   - Strongly Agree: 5
   - Agree: 4
   - Neutral: 3
   - Disagree: 2
   - Strongly Disagree: 1

9. I got the highest score in my class. 
   - Strongly Agree: 5
   - Agree: 4
   - Neutral: 3
   - Disagree: 2
   - Strongly Disagree: 1

10. I did so well on the test that I want to try to get even better next time. 
    - Strongly Agree: 5
    - Agree: 4
    - Neutral: 3
    - Disagree: 2
    - Strongly Disagree: 1

11. I had the highest score in the class. 
    - Strongly Agree: 5
    - Agree: 4
    - Neutral: 3
    - Disagree: 2
    - Strongly Disagree: 1

12. I just felt good about my fitness score. 
    - Strongly Agree: 5
    - Agree: 4
    - Neutral: 3
    - Disagree: 2
    - Strongly Disagree: 1

13. I did my best on the test. 
    - Strongly Agree: 5
    - Agree: 4
    - Neutral: 3
    - Disagree: 2
    - Strongly Disagree: 1

14. On the scale below, please show us how successful you think you will be on your next fitness test.

<table>
<thead>
<tr>
<th>Not at all successful</th>
<th>Not very successful</th>
<th>Maybe a little successful</th>
<th>Somewhat successful</th>
<th>Mostly successful</th>
<th>Really quite successful</th>
<th>Highly successful</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
16 August, 1995

Dear Sir/Madam

We are preparing to conduct a postal survey of sport and exercise behaviour among adolescents (13-18 year olds). This study is part of a larger cross-cultural project involving researchers in Australia, New Zealand and the USA. The sports we are investigating here in Perth are baseball, softball, hockey and basketball.

Further to our initial contact with your organisation, we would like to obtain a mailing list of 13-18 year old players in your sport. If possible, we prefer that this list consist of talented young players from development squads and/or state teams/squads. Strict confidentiality is assured, and we will return the mailing list to you as soon as the data collection is complete. Responses from the players will be completely anonymous, and they will not be personally identified in any written material related to the study.

Your assistance in this project will help us to understand the reasons why young people choose to participate in specific sport and exercise activities. If you have any further queries please contact either;

Dr Robert Grove  Phone 380 2361
or Mr Darrell Grant  Phone 386 1519

Yours sincerely

J.R. Grove, Ph.D.
Senior Lecturer