

SEX, AGE GROUP AND LOCALITY DIFFERENCES IN ADOLESCENT ATHLETES' BELIEFS, VALUES AND GOAL ORIENTATION IN TRACK AND FIELD

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This study used the Eccles et al. expectancy-value model of achievement choice and achievement goal theory to investigate sex, age group and locality differences in adolescent athletes' expectancy-related beliefs, subjective task values and achievement goals in track and field. A cross-sectional study was conducted on 632 (349 male, 283 female) athletes from the under 15 and 18 years age groups (mean, 15.2 ± 1.28 years) who volunteered to participate in the annual state track and field meet. The participants completed the expectancy-related beliefs, subjective task values measures, and Task and Ego Orientation in Sport Questionnaire. Results indicated a significant interaction effect between sex, age group and locality for expectancy-related beliefs, $F(1, 624) = 8.02$ ($p < 0.05$) and subjective task values, $F(1, 624) = 5.98$ ($p < 0.05$). However, no significant interaction effect between sex, age group and locality were found for task orientation, $F(1, 624) = 0.68$ ($p > 0.05$) and ego orientation, $F(1, 624) = 0.04$ ($p > 0.05$). Expectancy-related beliefs were found to be related with subjective task values ($r = 0.64$, $p < 0.01$), task orientation ($r = 0.40$, $p < 0.01$), and ego orientation ($r = 0.24$, $p < 0.01$). Subjective task values were related to task orientation ($r = 0.47$, $p < 0.01$) and weakly with ego orientation ($r = 0.16$, $p < 0.01$). Task orientation was also related to ego orientation ($r = 0.29$, $p < 0.01$). [J Exerc Sci Fit • Vol 7 • No 2 • 112–121 • 2009]

Keywords: achievement goals, adolescent athletes, expectancy-related beliefs, subjective task values, Malaysia

Introduction

Motivation plays a vital role in sports as it influences why and how adolescent athletes engage in the activities they choose, affecting the quality of their engagement and ultimately the outcome of their effort. Research on motivation in sports and physical education has utilized the Eccles et al. expectancy-value model of achievement

choice (Eccles et al. 1993; Eccles & Harold 1991) and achievement goal theory (Duda et al. 1995; Duda 1989) to predict the choices and goal orientations of athletes.

The Eccles et al. expectancy-value model of achievement choice is a social-cognitive theory which explains motivational factors that individuals use to make decisions about achievement choice. According to the model, individuals' achievement performance, effort, persistence and choice of achievement tasks are influenced by their expectancy-related beliefs and task values they attach to achievement tasks (Fredricks & Eccles 2002; Eccles & Harold 1991; Eccles et al. 1983). The Eccles et al. model is based on the premise that the choices that one makes are primarily guided by one's expectancy-related beliefs and subjective task values of the activity (Fredricks & Eccles 2002; Eccles & Harold



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1991). Expectancy-related beliefs consist of both beliefs about ability and expectancies for success (Xiang et al. 2003). Subjective task values are defined as incentives for engaging in different tasks (Xiang et al. 2004a).

Achievement goal is a social-cognitive theory that proposes that individuals have different goals for engaging in achievement behavior (Pintrich & Schunk 1996). The two goal orientations are task and ego orientations. Task orientation is related to demonstrating competence, personal improvement and task mastery. It is assumed that task orientation will lead to positive and adaptive achievement behaviors (Duda et al. 1995). Ego orientation is based on one's subjective evaluation of performance compared with that of others (Nicholls 1989, 1984). Generally, ego orientation is associated with maladaptive motivational patterns that are dependent on an individual's perceived ability, including avoidance of difficult learning tasks and attributing success or failure to natural ability (Xiang et al. 2004a).

The link between achievement goal theory and expectancy-value model have been proposed to provide a more complete picture of how the multiple facets of motivation relate to each other and to achievement-related patterns of students (Wigfield & Eccles 1992). They suggested that when individuals value a task primarily for intrinsic reasons, they would be likely to approach the task with a mastery (task) goal orientation. If individuals value the task primarily for utilitarian reasons, they would attempt the task if they know they can succeed and avoid it if it seems too difficult (Wigfield & Eccles 2002).

Studies have shown that achievement goals, expectancy beliefs and task values are related to one another and predictive of children's intention for future participation in physical education (Xiang et al. 2004a; DeBacker & Nelson 2000). In addition, Xiang et al. (2006, 2004b) revealed that mastery goal was related to expectancy beliefs, task values and intention for future participation in running whereas performance goal was related to expectancy beliefs and task value of importance. Task-oriented students tended to feel competent and valued the running program as useful, important and interesting as well as showed a strong intention for future participation in running.

Among the factors that influence athletes' perception of beliefs, values and goal orientation in track and field are sociodemographic characteristics. Adolescents' competence beliefs and valuing of activities tend to differ mainly in sex stereotypic ways where males have higher beliefs, values and goals compared to females (Gao & Xiang 2008; Eccles et al. 1993; Eccles & Harold 1991;

Wigfield et al. 1990, 1989). Studies have found that females tend to be more task-oriented while males tend to be more ego-oriented in the athletics context (Duncan 2006; MacDonald 2001; Plute 1999; Siegel 1999; Li et al. 1996). Task-oriented athletes tended to believe that sports would enhance cooperative skills, personal mastery, togetherness and higher levels of enjoyment. In contrast, ego orientation was positively linked with the belief that sports would increase career mobility, enhance one's popularity, social status and build a competitive spirit that tend to be associated with a lower level of motivation (Duncan 2006; Duda 1989). Other studies have also supported these findings (Duda et al. 1995; White & Duda 1994; Buchan & Roberts 1991; Duda 1989).

Research in motivation and achievement has generally shown that competency beliefs and values varied as a function of age where the children's perceptions of competence declined as they got older (Daigle 2003). Empirical studies have reported that young children's beliefs about their ability and expectancies are overly optimistic as they always think that they are competent in and will do well on upcoming tasks (Gao 2007; Xiang et al. 2004a, 2003; Wigfield et al. 1997; Lee et al. 1995; Wigfield & Eccles 1992; Eccles et al. 1989). However, as children age, their ability beliefs and their expectancies for success become more accurate in terms of their actual performance, realistic and sensitive to both success and failure expectations (Wigfield & Eccles 1992; Eccles et al. 1984a; Stipek 1984).

Empirical studies have shown contradictory findings for age differences in expectancy-related beliefs in sports and physical education. Most studies have shown that children's expectancy beliefs decline across school years in sport and physical education (Gao 2007; Xiang et al. 2004a, 2003; Fredricks & Eccles 2002; Wigfield et al. 1997). However, some studies found no or little decline in the children's competency beliefs and subjective task values in the sports and physical education domains across age (Xiang et al. 2006, 2005; Eccles et al. 1993; Wigfield et al. 1990).

Many studies have shown that younger athletes tend to be more task-oriented than older athletes (Xiang et al. 2004a; Weiss & Ferrer-Caja 2002; Xiang & Lee 2002; Digelidis & Papaioannou 1999; Thill & Brunel 1995; Buchan & Roberts 1991). However, other studies (Tzetzis et al. 2002; Christodoulidis et al. 2001) found no age differences in task and ego orientation.

Few empirical studies have been conducted to determine the motivation between urban and rural youths in sports utilizing Eccles et al.'s expectancy-value

theory and achievement goal theory. Bush et al.'s (2001) study on sports and urban school youth showed that sports involvement has positive influences on self-esteem and social competence. Many rural schools often face serious economic and resource constraints such as its remoteness, being socioeconomically disadvantaged, with limited facilities, funding and opportunities that place rural athletes at risk for low motivation and lack of success (Hardre et al. 2007). However, Freeman and Anderman (2005) found that rural students were more task-oriented than urban students due to mastery goal structures in their schools.

The purpose of this study was to examine sex, age group and locality differences on expectancy-related beliefs, subjective task values and goal orientation of adolescent athletes. It also examined the relationship between the Eccles et al. expectancy-value model of achievement choice and achievement goal theory.

Methods

Participants

The sample comprised 632 adolescent athletes (349 males, 283 females) who participated in the 34th Sarawak School Sports Interdivision Athletic Meet which was held in Miri, Sarawak. Sarawak is the largest state of the 13 states in Malaysia, and is located on the north-western coast of Borneo island. Sarawak is divided into 11 administrative divisions. These athletes represented their respective divisions in the competition and are considered the best in the state level for the under 15 and 18 years age groups. These age groups were chosen because of research suggesting that participation motives and achievement behavior changes around this age (White 1999). Permission for the study was granted by the Sarawak Education Department, all divisional education officers, the Sarawak State Sports Council, team managers and coaches. Participation in the study was voluntary. In the conduct of this study, several operational definitions were used to avoid different interpretations. The phrase "track and field" in this study refers to athletics. The term "sports" encompasses all competitive activities, regardless of the level of physical activity. "Physical education" refers to physical education programs and classes which are taught in schools.

Measures

The study used questionnaires that assessed the expectancy beliefs, subjective task values and achievement

goals of adolescent athletes. The questionnaire was translated into Bahasa Malaysia using the back-translation method (Brislin et al. 1973). The survey instrument was made up of three parts. The first part measured the demographic measures related to sex, age, locality and school. The second part measured expectancy-related beliefs and subjective task values. These measures were developed by Eccles et al. (1983), and further used by Gao and Xiang (2008) and Xiang et al. (2004a, 2004b, 2003) in the physical education domain. Both these measures have been reworded to reflect track and field rather than the academic and physical education achievement domain. The third part measured the participant's goal orientations which were assessed using the Task and Ego Orientation in Sport Questionnaire (TEOSQ) (Duda & Nicholls 1992).

The expectancy-related beliefs subscale composed of expectancy-related beliefs and expectancy for success is assessed by five items. The items are measured on a 7-point Likert type scale anchored at the ends. The subjective task values subscale is composed of attainment value, utility value and intrinsic value, which are assessed by six items. The items are measured on a 7-point Likert type scale anchored at both ends.

Both expectancy-related beliefs and subjective task values subscales showed good validity and reliability in the sports and physical education settings (Xiang et al. 2004a, 2003). Xiang et al.'s (2004a) longitudinal study demonstrated reliable consistency for expectancy-related beliefs and task values in their first-year data (Cronbach's $\alpha = 0.63$ and 0.68 , respectively) and second-year data (Cronbach's $\alpha = 0.62$ and 0.65 , respectively).

The TEOSQ is a 13-item scale questionnaire that measures task orientation (7 items) and ego orientation (6 items). Participants are asked to think when they felt most successful in track and field. The stem for all items was modified to, "I feel most successful in track and field when..." for the purposes of this study. Examples of items are: "...I work really hard" (task orientation) and "...the others can't do as well as me" (ego orientation). Responses are rated on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). A mean score is calculated for both the task and ego scales. This gave a mean score between 1 (low) and 5 (high) for each orientation.

The task and ego goal orientation also showed excellent reliabilities in the sports domains (Xiang et al. 2004a, 2004c; Lim 2002; Xiang & Lee 2002). In Malaysia, the TEOSQ has been translated into Bahasa Malaysia and validated by Lim (2002). The task and ego orientation subscales demonstrated adequate internal

consistencies with alpha reliability coefficients of 0.82 and 0.71, respectively (Lim 2002).

A pilot test was carried out to investigate the reliability of the expectancy-related beliefs, task values and goal orientations subscales in Bahasa Malaysia. The pilot test was assessed using the test-retest reliability method on 36 athletes who completed the questionnaire over a 1-week interval. Results showed that the measures were reliable.

Results

There was high reliability for all the scales as shown in Table 1. Cronbach's alpha coefficients for the expectancy-related beliefs and subjective task values scales were 0.81 and 0.82 respectively. The internal consistency coefficients for TEOSQ and task and ego orientation subscales were 0.78, 0.73 and 0.78 respectively.

Sociodemographic characteristics of participants

Table 2 presents the sociodemographic characteristics of the participants. Table 2 shows that out of the total number of participants who volunteered in the study ($n=632$), 349 (55.2%) were male and 283 (44.8%) were female. The athletes' mean age was 15.1 ± 1.2 years. The age-group categories showed that 421 (66.6%) of the respondents were 13–15 years old and 211 (33.4%) were 16–18 years old.

Sarawak is the most multiracial state in Malaysia with 27 ethnic groups. The distribution in terms of ethnicity showed that the Iban formed the largest percentage with 52.5%. This was followed by Chinese, Others and Malay who comprised 16.9%, 13.0% and 11.6% of the population, respectively. The Bidayuh and

Table 1. Reliability of expectancy-related beliefs, subjective task values, task and ego goal orientations

Scale	Internal consistency
Overall expectancies and task value	0.88
Expectancy-related beliefs scale	0.81
Beliefs about ability	0.71
Expectancies for success	0.76
Subjective task values scale	0.82
Attainment value/importance	0.63
Intrinsic value/interest	0.70
Utility value/usefulness	0.70
TEOSQ	0.78
Task orientation	0.73
Ego orientation	0.78

TEOSQ = Task and Ego Orientation in Sport Questionnaire.

Indians formed the minority of the groups with only 5.7% and 0.3%, respectively. A total of 471 (74.5%) were rural athletes and 161 (25.5%) were urban athletes. Table 2 also shows that there were 570 (90.2%) divisional athletes, 57 (9%) state athletes and 5 (0.8%) district athletes.

A $2 \times 2 \times 2$ (sex \times age group \times locality) analysis of variance (ANOVA) was conducted to examine the effects of sex, age group and locality on expectancy beliefs, subjective task values, and task and ego goal orientations. Table 3 shows the mean and standard deviations for expectancy-related beliefs, subjective task values, and task and ego goal orientations by sex, age group and locality.

Table 4 shows the ANOVA for expectancy beliefs, subjective task values, and task and ego goal orientations as a function of sex, age group and locality. The ANOVA for expectancy-related beliefs revealed that there were significant main effects of sex [$F(1, 624)=6.55, p<0.05$] and age group [$F(1, 624)=4.55, p<0.05$] but no significant main effect of locality [$F(1, 624)=0.97, p>0.05$]. In general, male athletes had higher expectancy-related beliefs (5.12 ± 0.86) than female athletes (4.97 ± 0.81), and older athletes had higher expectancy-related beliefs (5.13 ± 0.83) than younger athletes (5.02 ± 0.84).

There was a significant interaction between sex and locality [$F(1, 624)=4.75, p<0.05$, partial $\eta^2=0.008$].

Table 2. Demographic characteristics of the 632 participants*

Sex	
Male	349 (55.2)
Female	283 (44.8)
Age (yr)	15.15 ± 1.27
13–15	421 (66.6)
16–18	211 (33.4)
Ethnicity	
Iban	332 (52.5)
Bidayuh	36 (5.7)
Cina	107 (16.9)
Malay	73 (11.6)
Indian	2 (0.3)
Other	82 (13.0)
Locality	
Urban	161 (25.5)
Rural	471 (74.5)
Highest level of competition	
District	5 (0.8)
Division	570 (90.2)
State	57 (9.0)
Total	632 (100)

*Data presented as n (%) or mean \pm standard deviation.

Table 3. Means and standard deviations for expectancy-related beliefs, subjective task values, and task and ego goal orientations as a function of sex, age group and locality*

	Age group			Locality		Age group (13–15 yr)			Age group (16–18 yr)			Total
	13–15 yr		16–18 yr	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Beliefs												
Male	5.09±0.88	5.19±0.83	5.15±0.90	5.12±0.85	4.93±0.92	5.13±0.87	5.08±0.82	4.85±0.81	5.13±0.87	5.47±0.79	5.08±0.82	5.12±0.86
Female	4.93±0.79	5.06±0.83	4.83±0.82	5.03±0.80	4.85±0.81	4.96±0.78	5.19±0.81	4.80±0.83	4.96±0.78	4.80±0.83	5.19±0.81	4.97±0.81
Total	5.02±0.84	5.13±0.83	4.99±0.87	5.08±0.30								5.06±0.84
Values												
Male	5.33±0.92	5.59±0.78	5.34±0.99	5.44±0.85	5.05±1.05	5.41±0.88	5.52±0.78	5.77±0.74	5.41±0.88	5.77±0.74	5.52±0.78	5.42±0.89
Female	5.36±0.87	5.31±0.80	5.12±0.85	5.43±0.82	5.18±0.91	5.42±0.85	5.45±0.77	5.03±0.78	5.42±0.85	5.03±0.78	5.45±0.77	5.34±0.84
Total	5.34±0.90	5.46±0.80	5.23±0.93	5.43±0.84								5.38±0.87
Task												
Male	4.07±0.48	4.17±0.45	4.18±0.49	4.08±0.47	4.10±0.52	4.06±0.47	4.12±0.45	4.30±0.42	4.06±0.47	4.30±0.42	4.12±0.45	4.10±0.47
Female	4.05±0.48	4.10±0.44	4.09±0.48	4.05±0.47	4.07±0.48	4.04±0.48	4.09±0.43	4.12±0.47	4.04±0.48	4.12±0.47	4.09±0.43	4.07±0.47
Total	4.06±0.48	4.14±0.45	4.14±0.48	4.07±0.47								4.09±0.47
Ego												
Male	3.15±0.70	3.09±0.69	3.12±0.65	3.11±0.71	3.10±0.68	3.14±0.70	3.06±0.72	3.16±0.60	3.10±0.68	3.16±0.60	3.06±0.72	3.12±0.69
Female	2.94±0.65	3.06±0.72	2.80±0.62	3.05±0.69	2.69±0.49	3.02±0.68	3.12±0.71	2.96±0.76	3.02±0.68	2.96±0.76	3.12±0.71	2.98±0.68
Total	3.04±0.68	3.08±0.70	2.96±0.65	3.09±0.70								3.06±0.69

*Data presented as mean ± standard deviation.

Urban male athletes had higher expectancy-related beliefs (5.15±0.90) than rural male athletes (5.12±0.85), whereas rural female athletes had higher expectancy-related beliefs (5.03±0.80) than urban female athletes (4.83±0.82). There was also an interaction between sex, age group and locality [$F(1, 624) = 8.02, p < 0.05, \text{partial } \eta^2 = 0.008$]. In males, the younger rural athletes had higher expectancy-related beliefs (5.13±0.87) than younger urban athletes (4.93±0.92). Conversely, among males, older urban athletes had higher expectancy-related beliefs (5.47±0.79) than older rural athletes (5.08±0.82). In females, younger rural athletes had higher expectancy-related beliefs (4.96±0.78) than younger urban athletes (4.85±0.81). Similarly, among females, older rural athletes had higher expectancy-related beliefs (5.19±0.81) than older urban athletes (4.80±0.83). This showed that sex differences in expectancy-related beliefs in athletics changes significantly, depending on age group and locality of the school. However, the interaction between sex and age group was not significant [$F(1, 624) = 0.929, p > 0.05, \text{partial } \eta^2 = 0.001$]. The interaction between age group and locality was also not significant [$F(1, 624) = 1.00, p > 0.05, \text{partial } \eta^2 = 0.013$].

The ANOVA for subjective task values revealed that there were also significant main effects of sex [$F(1, 624) = 4.33, p < 0.05$], age group [$F(1, 624) = 4.83, p < 0.05$], and locality [$F(1, 624) = 5.49, p < 0.05$] on subjective task values. Male athletes had higher task values (5.42±0.89) than female athletes (5.34±0.84). Older athletes also had higher task values (5.46±0.80) than younger athletes (5.34±0.90). Rural athletes (5.43±0.84) valued athletics more than urban athletes (5.23±0.93). There was a significant interaction between sex and age group [$F(1, 624) = 8.48, p < 0.05, \text{partial } \eta^2 = 0.013$]. Older male athletes had higher task values (5.59±0.78) than younger male athletes (5.33±0.92), and older female athletes had higher task values (5.36±0.87) than younger female athletes (5.31±0.80). In addition, there was a significant interaction between sex, age group and locality on subjective task values [$F(1, 624) = 5.98, p < 0.05, \text{partial } \eta^2 = 0.009$]. In males, younger rural athletes had higher values (5.41±0.88) than younger urban athletes (5.05±1.05). Conversely, among males, older urban athletes had higher values (5.77±0.74) than older rural athletes (5.52±0.78). In females, younger rural athletes had higher values (5.42±0.85) than younger urban athletes (M=5.18±0.91). Similarly, among females, older rural athletes had higher values (5.45±0.83) than older urban athletes (5.03±0.78).

Table 4. Analysis of variance for expectancy-related beliefs, subjective task values, and task and ego orientations as a function of sex, age group and locality

Variable	df	MS	F	η^2
Expectancy beliefs				
Sex	1	4.55	6.55*	0.010
Age group	1	3.16	4.55*	0.007
Locality	1	0.67	0.97	0.002
Sex \times age group	1	0.64	0.93	0.001
Sex \times locality	1	3.29	4.75*	0.008
Age group \times locality	1	0.69	1.00	0.002
Sex \times age group \times locality	1	5.56	8.02*	0.013
Subjective task values				
Sex	1	3.17	4.32*	0.007
Age group	1	3.52	4.83*	0.008
Locality	1	4.02	5.49*	0.009
Sex \times age group	1	6.20	8.48*	0.013
Sex \times locality	1	2.22	3.04	0.005
Age group \times locality	1	1.30	1.77	0.003
Sex \times age group \times locality	1	4.34	5.93*	0.009
Task orientation				
Sex	1	0.49	2.21	0.004
Age group	1	0.85	3.83	0.006
Locality	1	0.60	2.70	0.004
Sex \times age group	1	0.17	0.77	0.001
Sex \times locality	1	0.18	0.80	0.001
Age group \times locality	1	0.14	0.62	0.001
Sex \times age group \times locality	1	0.15	0.68	0.001
Ego orientation				
Sex	1	3.15	6.73*	0.011
Age group	1	0.85	1.81	0.003
Locality	1	1.33	2.84	0.005
Sex \times age group	1	1.01	2.16	0.003
Sex \times locality	1	2.11	4.50*	0.007
Age group \times locality	1	0.64	1.37	0.002
Sex \times age group \times locality	1	1.96	0.04	0.000

* $p < 0.005$.

Conversely, the ANOVA for task orientation revealed no significant main effects of sex [$F(1, 624) = 2.21, p > 0.05$], age group [$F(1, 624) = 3.83, p > 0.05$], and locality [$F(1, 624) = 2.70, p > 0.05$]. Therefore, neither sex, age group nor locality significantly influences task orientation. There was also no significant interaction between sex and age group [$F(1, 624) = 0.77, p > 0.05$], sex and locality [$F(1, 624) = 0.80, p > 0.05$], age group and locality [$F(1, 624) = 0.62, p > 0.05$], and sex, age group and locality [$F(1, 624) = 0.68, p > 0.05$] on task orientation. Thus, the influence of task goal orientation does not depend on sex, age group or locality.

The ANOVA for ego orientation revealed a significant main effect of sex [$F(1, 624) = 6.73, p < 0.05$] but no significant main effects of age group [$F(1, 624) =$

1.18, $p > 0.05$] or locality [$F(1, 624) = 2.84, p > 0.05$] on ego goal orientation. That is, sex significantly influenced ego goal orientation. There was a significant sex by locality interaction [$F(1, 624) = 4.50, p < 0.05$, partial $\eta^2 = 0.007$]. As can be seen in Table 3, in males, urban athletes were more ego-oriented (3.12 ± 0.65) than rural athletes (3.11 ± 0.71). Conversely, in females, rural athletes were more ego-oriented (3.05 ± 0.69) than urban athletes (2.80 ± 0.62). This showed that sex differences in adolescent athletes' ego orientation about track and field changed significantly depending on the school location. However, there was no significant sex by age group interaction effect [$F(1, 624) = 2.16, p > 0.05$, partial $\eta^2 = 0.003$] or age group by locality interaction effect [$F(1, 624) = 1.37, p > 0.05$, partial

$\eta^2=0.002$]. In addition there was no significant interactions among sex, age group and locality [$F(1, 624)=0.04, p>0.05$, partial $\eta^2=0.000$].

Relationship between achievement goals, expectancy-related beliefs and subjective task values

The relationship between achievement goals, expectancy-related beliefs and subjective task values were also explored. Task orientation was moderately and positively related to ego orientation ($r=0.29, p<0.01$). Task orientation was positively related to expectancy-related beliefs ($r=0.40, p<0.01$) and subjective task values ($r=0.47, p<0.01$). Ego orientation was positively related to expectancy-related beliefs ($r=0.24, p<0.01$) but correlated rather weakly with subjective task values ($r=0.16, p<0.01$). Expectancy-related beliefs and subjective task values were moderately and positively related to each other ($r=0.64, p<0.01$).

Discussion

This study examined adolescent athletes' motivation in track and field within an expectancy-value model developed by Eccles and her colleagues and achievement goal theory. The results showed that younger male athletes from rural and urban schools have higher competence beliefs in track and field than younger female athletes from rural and urban schools. Older male athletes from urban schools also have higher competence beliefs than older female athletes from urban schools. However, older female athletes from rural schools placed higher competence beliefs than older male athletes from urban schools. Generally, male athletes from rural schools are more likely to be active and continue in track and field as they progress through their school years. This finding was consistent with previous studies (Gao & Xiang 2008; Wigfield et al. 1997; Eccles et al. 1993, 1984b, 1983), which found that females have lower competence beliefs than males. Male athletes may perceive track and field as a masculine sport where they are more likely to enjoy challenging physical activities (Brandell et al. 2004). This showed that when athletes feel that the activity is appropriate for their sex, they also feel more competent and maintain their effort, even under adverse conditions (Daigle 2003; Wigfield et al. 1999). Therefore, individuals who perceive themselves to be competent may be motivated to engage in track and

field and, conversely, withdraw from activities when they perceive themselves to lack competence (Daigle 2003). Although this inconsistency between actual achievement and self-perceptions of ability may be due to a response bias, with boys being more self-congratulatory and girls being more modest (Eccles et al. 1984b), as in many cases, females actually outperform males; yet, other studies show females as having lower self-perception (Pintrich & Schunk 1996). This was proven by Xiang et al. (2003) who reported that girls were more likely than boys to hold lower expectancy-related beliefs about physical education and show less intention for future physical education participation.

The results further revealed that older athletes have higher beliefs than younger athletes. This implied that older athletes can have positive beliefs about track and field with the support of significant others, as shown in previous studies (Xiang et al. 2006, 2005; Eccles et al. 1993; Wigfield et al. 1990). One explanation is related to their conception of ability. Older athletes showed that they are more dependent on the undifferentiated conception of ability and less likely to depend on social comparisons and recognition. Another reason may be that older athletes show signs of maturity that enable them to focus on long-term goals where success is determined by their amount of effort and time invested in their sport. In order to achieve long-term success, they must persist with hard work regardless of ability, prevail further in their performance and perform over time. They are expected to develop fully as top athletes in their 20s with consistent high performance.

Further analysis showed that younger female athletes in rural and urban schools placed higher values than younger male athletes in rural and urban schools. In urban schools, older male athletes placed higher values than female athletes. In rural schools, older male athletes placed higher values than older male athletes. Male athletes who have higher values than female athletes showed that they think it is more important and useful to participate in track and field. Thus, they tend to enjoy and hold more positive beliefs about participating in track and field. Generally, rural athletes have higher values than urban athletes. This implied that locality plays a role in forming adolescents' values about track and field. One possible reason may relate to the support of significant others such as coaches, physical educators and teachers who inspire the athletes to achieve greater heights in their performance. Despite the limited resources and opportunities faced by rural athletes, the support of significant others could influence

their task values to help them to persist in times of difficulty. Thus, rural athletes who find track and field enjoyable and interesting are more likely to sustain their participation, persist and exert more effort (Sabiston 2005). However, it is undetermined as to how long these rural athletes would be able to sustain their values in track and field when they are deprived of opportunities, resources and benefits that are available to urban athletes.

The findings further found that male athletes were more ego-oriented than female athletes. This is consistent with previous findings (Li et al 1996; White & Duda 1994; Williams 1994; Newton & Duda 1993; Buchan & Roberts 1991; Duda 1989), which showed that males tend to be more ego-oriented than females. This implies that male athletes' main concern is to perform better when compared with other athletes in terms of their abilities due to an increase in social comparison, competition and normative grading practices as they progress through the school years (Xiang et al. 2004a). Therefore, participation in track and field is more likely to increase the status of males and recognition from others.

The results showed a significant difference in ego orientation among urban and rural athletes. Rural athletes reported higher ego orientation than urban athletes, especially for female rural athletes. Rural and urban male athletes also showed similar ego orientation as their mean difference was small. The finding supports Bush et al.'s (2001) study that showed urban students tend to demonstrate positive self-esteem, which is associated with task or learning goal orientation that can increase their motivation levels.

Rural athletes are concerned with gaining recognition and seeking social status through track and field as they are given more opportunities for participation as compared to other sports in rural schools. This is because rural athletes confront economic and resource constraints that deprive them of equal opportunity compared to urban athletes (Hardre et al. 2007). Participating in track and field based on normative criteria would increase competitiveness among rural athletes in evaluating their success. High athletic achievement such as being the best in their school and region could be perceived as a way to gain popularity, status and recognition. This would lead to better opportunities such as better schooling, incentives, equipment and facilities that are generally lacking in rural schools. Therefore, being on the school team and representing the division would lead to the tendency of rural athletes to adopt an ego goal orientation.

Finally, the positive relationship between the two theoretical perspectives supports the findings of previous studies (Xiang et al. 2006, 2004b, 2003), which also revealed similar results. This implies that students who scored higher on expectancy-related beliefs in sports tended to see it as more useful, important and interesting than students who scored lower on expectancy-related beliefs (Gao & Xiang 2008).

Implications

This study found further evidence that male athletes hold higher expectancy-related beliefs than female athletes in the sports domain. Despite track and field being a non-contact and non-aggressive sport, female athletes perceived track and field to be relatively masculine and inappropriate for them. The sex-stereotyping of track and field has resulted in interventions by the Malaysian government to support sports for women, which has increased female participation, involvement and motivation in track and field and other sports.

Since expectancy-related beliefs and task values are related, practitioners should look into developing positive beliefs and task values towards track and field. This is because an athlete who expects to do well in track and field and has high value for that task would be expected to choose that task over others (Stuart & Whaley 2005). Parents, coaches and teachers can also play a big role in shaping adolescent athletes' beliefs and behaviors through positive influences and making track and field training and activities interesting and fun. When parents, coaches and teachers have high perceptions of the athlete's ability, the decline in the adolescent's expectancy-related beliefs and task values will be less dramatic and will likely increase engagement and eventually encourage participation in track and field (Daigle 2003; Fredricks & Eccles 2002). It is important that the influence of athletic values and expectancies is emphasized equally as athletes would judge the tasks that they perceive themselves to be good at as more important, enjoyable and useful, which would increase their expectancies of success.

As male athletes have been shown to be more ego-oriented in their goals, it is necessary to create a task-oriented motivational climate during the transition from lower to upper secondary school. In doing so, the task-oriented climate would also provide an opportunity for ego-oriented rural athletes to feel success and develop self-competence. Athletes of all levels, including elite athletes, have reported positive outcomes when they perceive the environment as high in a mastery orientation (Treasure 2001).

The positive relationship between these two theoretical perspectives shows that task-oriented motivational climate is essential for enhancing the values of track and field. This is because a task-oriented climate that fosters feelings of effort, competence and values are most effective in cultivating adolescent athletes' desires to participate in track and field.

Though these findings showed significant effects for expectancy-related beliefs, task values and ego orientation, it is necessary to promote intrinsic motivation in the form of autonomy-supportive behavior through a mastery-oriented climate to enable long-term and high-quality involvement in track and field.

In conclusion, the results of the study provide additional information about sex, age and locality differences in adolescents' beliefs, values and goal orientations in a traditional male-dominated domain. In addition, it supports the link in integrating Eccles et al.'s (1983) expectancy-value model of achievement choice and achievement goal theory for a better understanding of motivation in track and field from the Malaysian perspective.

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