

Gender Differences in Adolescent Athletes' Beliefs and Values

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ABSTRACT

The purpose of this study is to examine gender differences in adolescent athletes' expectancy-related beliefs and task values as well as the relationship between the two constructs within the expectancy-value model of achievement choice. The participants were 349 males and 283 females (N = 632) participating in the 34th Sarawak School Sports Inter-Division Athletic Meet. They were divided into two age groups of 15 and 18 years. They completed questionnaires assessing their expectancy-related beliefs and subjective task values. Results revealed gender differences in expectancy-related beliefs but no differences emerged in the task values. The results also indicated that expectancy-related beliefs and subjective task values were related to each other positively.

INTRODUCTION

Sports in Sarawak

Sports have played an important role in the development of Sarawak contributing to racial and social integration among the 26 different ethnic group. Sports in Sarawak have also grown tremendously for the past years producing many athletes in various sports such as athletics, swimming, diving, bowling, volleyball and lawn bowls. Sarawak has also been identified as one of the regional satellite sports science and sports medicine centres by the NSC in Malaysia. These showed the commitment of the state government in enhancing the development of sporting excellence and making Sarawak a prominent sporting state in Malaysia.

The development of sports in Sarawak lies with the Sarawak State Sports Council which was set up in 1985. It is the main advisor to the state government on all sporting matters. The Sarawak State Sports Council also worked closely with other sports organizations to ensure that all sports development and training programmes from grassroots to elite standard are implemented as planned. The Sarawak State Sports Council has a good track record of supporting Sarawak sports and its successful programmes such as the Sports Development and Centre of Excellence Programmes have consistently producing young potential sportsmen/sportswomen to compete at state and national levels.

The Sarawak State Sports Council's efforts in achieving excellence in sports has been evident in Sarawak's records in Sukan Malaysia or Malaysian Games. Sarawak was SUKMA's three times consecutive champion in 1990, 1992 and 1994 and runner-up in 1996, 1998, 2000, 2002, 2004 and 2006. SUKMA, the acronym for "Sukan Malaysia" (or Malaysia Games) is Malaysia's

biennial sporting games involving the 13 states and the federal territories of Malaysia. SUKMA is a 'multi-sports competition' involving young athletes under-21 years of age aimed at unearthing new talents and nurturing these talents to excel at national and international level competitions. SUKMA places responsibility on the states to develop and train young athletes as well as improve their sports facilities (Star, 2006). SUKMA is organized once in two years and alternately by Southeast Asian Games. The Malaysian Games is restricted to under-21 athletes only and is a platform to search for new talents in various sports.

The Psychology of Sports

The performances of the athletes are dependent on four main aspects of training. The four aspects are physical, technical, tactical and psychological. While the physical, technical and tactical skills help to make a champion, the psychology development of an athlete is equally important. The psychology aspect of the athletes is important especially when physical abilities are equal in order to improve their performance. Competitive sports involve a mental challenge in which the athletic performance is based on the mental strength when physical abilities are equal. Successful athletes mean they need to be physically, mentally and emotionally strong in achieving their peak potential in performance. For this reason it is important to address the psychological aspects that contribute to the performance of an athlete.

One major discipline in sport psychology is motivation. The role motivation play is important because athletic success depends significantly on people's willingness to exert mental and physical effort in pursuit of excellence (Moran, 2004). Motivation to perform as an athlete is essentially important in the success of the individual and team. It is important to highlight and examine the role of motivation at the adolescent level in order to try and identify what keeps the adolescent athletes going, and what increases young athletes' probability of achieving excellence in accordance with their true potential and how motivational processes develop in young athletes.

Statement of the problem

Sarawak has not been able to maintain its winning track record in athletics at the national level. This is evident in Sarawak's track records in the SUKMA championship held at the national level. Sarawak have been one of the dominant force in athletics from the time it first participated in the SUKMA Games in 1986 and its performance has not been satisfactory for the last four SUKMA Games. In the SUKMA Games, athletics comprised 45 events offering 45 gold, 45 silver and 45 bronze medals to be contested. Athletics should have contributed the majority of medals as Sarawak has been champion in the Malaysian Schools Sports Council (MSSM) athletics championships for the past six years. These promising potential talents faded after leaving school. Athletics in Sarawak is running out of participation from young athletes where interest among the athletes faded after leaving school. Sarawak will end up producing junior champions and losing them once leaving school.

The performance of Sarawak athletics can be based on past records in the SUKMA games. Based on records, Sarawak has steadily fallen behind in the number of medals it has won the title of champion three times in the third SUKMA Games (1990), fourth SUKMA Games (1992) and the fifth SUKMA Games (1994) respectively. From the sixth SUKMA Games onwards, Sarawak was dethroned by Selangor in the sixth SUKMA Games (1996), seventh SUKMA Games (1998), eighth SUKMA Games (2000), tenth SUKMA Games (2002), eleventh Games SUKMA (2004) and twelfth SUKMA Games (2006). Selangor has emerged as the overall

champions and Sarawak was second for the sixth consecutive Games. Table 1 shows the Sarawak records in athletics and all participating sports in the SUKMA Games.

Table 1. Sarawak records in Athletics (Track and Field) and all participating sports in SUKMA Games as at 31 January 2005

| Competition | Year | Medals | | | | | | Percentage of total gold and medals | |
|-------------|------|-----------|---|----|------------|----|----|-------------------------------------|--------------|
| | | Athletics | | | All sports | | | Athletics | All sports |
| | | G | S | B | G | S | B | Gold Medals | Total Medals |
| SUKMA I | 1986 | 4 | 1 | 6 | 13 | 8 | 13 | 30.8% | 32.4% |
| SUKMA II | 1988 | 5 | 3 | 10 | 24 | 18 | 15 | 20.8% | 31.8% |
| SUKMA III | 1990 | 6 | 4 | 3 | 44 | 17 | 18 | 13.6% | 16.5% |
| SUKMA IV | 1992 | 8 | 9 | 7 | 36 | 27 | 26 | 22.2% | 25.5% |
| SUKMA V | 1994 | 11 | 8 | 6 | 39 | 28 | 31 | 28.2% | 25.5% |
| SUKMA VI | 1996 | 10 | 9 | 7 | 35 | 47 | 60 | 28.6% | 18.3% |
| SUKMA VII | 1998 | 7 | 9 | 8 | 46 | 45 | 41 | 15.2% | 18.2% |
| SUKMA VIII | 2000 | 7 | 7 | 6 | 49 | 55 | 56 | 14.3% | 12.5% |
| SUKMA IX | 2002 | 1 | 8 | 4 | 35 | 47 | 60 | 2.9% | 9.2% |
| SUKMA X | 2004 | 6 | 4 | 7 | 53 | 56 | 44 | 11.3% | 11.1% |

Note: G = Gold; S = Silver; B = Bronze. From "Sarawak State Sports Council, 2005."

As shown in Table 1, athletics has performed consistently well in terms of the total percentage of the gold won for the first six SUKMA games that ranged from 30.8% (SUKMA I) to 28.6% (SUKMA IV) Whereas, the contribution of athletics in terms of the percentage of total medals won ranged from 32.4% (SUKMA I) to 18.3% (SUKMA IV) for athletics. However, the last four SUKMA games showed a gradual decline which ranged from 15.2% (SUKMA VII) to 11.2% (SUKMA X) and 18.3% (SUKMA VII) to 11.1% (SUKMA X) in terms of the total percentage of the gold and total medals. A drastic decline was shown in SUKMA X with only 2.9% and 9.2% out of the total percentage of gold and total medals. The data indicated that athletics contribution to the total amount of gold and medals have gradually reduced from 30.8% and 32.4% in SUKMA I to merely 11.3% and 11.1% in SUKMA X.

Despite showing dominance and supremacy in the first six SUKMA games, athletics has failed in its pursuit in delivering gold medals to Sarawak where the lion's share of SUKMA Games gold medals should come from 45 events it participated in out of 45 track and field gold available for the past four SUKMA games. This shows that athletics has not live up to the expectations of the Sarawak State Sports Council in delivering medals in the SUKMA Games. It is important to address the decline in performance of Sarawak athletes in order for them to regain their form at national and world-class competitions in the future. Understanding the motivation of the adolescent athletes to attract and sustain them is a huge challenge for Sarawak with its vision to become the nation's sports powerhouse by the year 2010. If no effort has been made to understand the adolescent athletes' motivation and made appropriate modification to address their needs, Sarawak would not be able to enjoy a lifetime achievement of excellence in sports. This will result in Sarawak failing to attract, sustain and produce champions in the near future despite of its vast geographical size and large population.

One of the main areas in sport psychology that could affect an athlete's performance is that of motivation. To examine motivation of elite adolescent athletes in Sarawak, it is important to understand how motivational processes evolve in elite adolescent athletes in athletics as there have not been any empirical evidence shown in understanding these athletes in Sarawak. The inconsistencies and decline in performance in Sarawak athletics has shown that it is vital to undertake a study of this nature in order to generate empirical data and analyse the causes of decline in performance.

This study looks into examining and understanding motivation of adolescent athletes in athletics using the expectancy-value model of achievement choice on participation motivation. Investigating the diversities in motivation in participation among adolescent athletes may shed light on the underlying reasons why adolescent athletes participate in athletics.

Objectives

The primary objectives of the study are as follows:

1. To examine the differences in expectancies-related beliefs and subjective task values in terms of gender.
2. To examine the relationship between expectancy-related beliefs and subjective task values.

Research Questions

1. Is there any significant difference in expectancies-related beliefs and subjective task values between male and female athletes?
2. What is the relationship between expectancies-related beliefs and subjective task values?

Significance of the Study

An understanding of these motivational elements will enable policy makers, researchers, sport psychologists, coaches and instructors to develop more effective motivational strategies and techniques attuned to the needs of each individual athlete for the enhancement of performance and involvement in athletics. Exploring the psychological nature of adolescent athletes may contribute to the development of specific programmes designed to take advantage of motivational attributes deemed essential for optimal performance (Myers, 2004).

Another justification of this study is that the data gathered would enable the Sarawak State Sports Council, the Sarawak Amateur Athletics Association and the Sarawak Education Department to address the declining standard and performance of athletes in Sarawak. The findings will contribute to the state in its effort in producing committed and dedicated adolescent athletes to achieve greater heights at state, national and international levels. Efforts must be made to formulate more effective and practical motivational strategies to maintain adolescent athletes' positive beliefs about the value of sports. Evidence has indicated that high-level competitions at an early age are neither advantageous nor necessary and may be detrimental to future athletic potential and performance (Donnelly, Caspersen, Sergeant & Steenhof, 1993).

Participation in competitive athletics and sport programs is part of the developmental period of an athlete's life. These adolescent athletes need to be carefully monitored psychologically to remain competitive and to ensure their future participation in sports to bring glory to Sarawak and Malaysia.

LITERATURE REVIEW

Expectancy-value model of achievement choice

The Eccles et al. (1983) expectancy-value model of achievement choice is a social-cognitive theory which explains motivational factors that individuals use in making decisions about achievement-related choices. Eccles et al. (1983) proposed that expectancy for success in an achievement task and the subjective values for succeeding in the task are the best predictors of choosing the task, making effort in the task, persisting in the task and succeeding at the task. Eccles et al. model (1983) is based on concepts used in decision-making in achievement and in attribution research (Meece, Parsons, Kaczala, Futterman & Goff, 1982). Expectancy-value theory comprised of two components of individual perceptions that directly influence achievement behaviors: expectancy beliefs and subjective task values beliefs (Eccles, Adler, & Meece, 1984; Eccles & Wigfield, 1995, 2000; Wigfield & Eccles, 1992, 2000). The expectancy component refers to the individual's beliefs and judgment about his or her capabilities to do a task and succeed at it (Eklof, 2003). The expectancy-related beliefs consist of both beliefs about ability and expectancies for success (Xiang, McBride, Guan & Solmon, 2003). Expectancies for success refers to individuals' beliefs about how well they will do on upcoming tasks, either in the immediate or longer term future that will result in a favourable outcome (Eccles et al., 1983). Beliefs about ability refers to individuals' perception of their current competence at a given activity or evaluation of their ability in different achievement tasks (Xiang, McBride, Guan, 2004). These two beliefs are closely related which often emerged as a single statistical construct (Eccles et al., 2003; Eccles & Wigfield, 1995).

Subjective task values concerns the various reasons why students want, or do not want, to do something (Eccles & Wigfield, 2002; Ryan, Ryan, Arbuthnot, & Samuels, 2007.). There are four different components of subjective task values. The four components are attainment value or importance, intrinsic or interest associated with the task, utility value or usefulness of the task and the costs associated with engaging in the task. Attainment value is the importance students attach to the task as it relates to their conception of their identity and ideals or their competence in a given domain (Wigfield, 1994). Intrinsic value is the enjoyment and inherent challenge one gets from engaging in the activity. Intrinsic value often results from the enjoyment an activity produces for the participant (Wigfield, 1994). Utility value refers to the perceived usefulness of the task for athletes in terms of current and future goals. Cost refers to how the decision to engage in one activity (e.g., doing schoolwork) limits access to other activities (e.g., calling friends), assessments of how much effort will be taken to accomplish the activity, and its emotional cost (Wigfield & Eccles, 2000). Cost is conceptualized in terms of the negative aspects of engaging in the task, such as performance anxiety and fear of both failure and success as well as the amount of effort that needed to succeed and the lost opportunities that result from making one choice rather than another (Eccles, 1987).

Relationship between expectancy-related beliefs and subjective task values

Expectancies-related beliefs and subjective task values are found to be related positively with one another (Berndt & Miller, 1990; Eccles et al., 1983; Eccles et al., 1998; Eccles et al., 2003; Eccles & Wigfield, 1995; Greene et al., 1999; Meece, Wigfield & Eccles., 1990; Wigfield et al., 1997; Xiang, McBride, Guan & Solmon, 2003).

Berndt and Miller (1990) examined the relationship between expectancies and values on 153 seventh graders' school achievement. They found that both expectancy and value positively influenced school achievement where expectancy related more strongly to achievement than value. The important indicators of expectancy were scholastic competence, ability attribution of success and ability attribution of failure (Bong, 1996).

In a study of 668 students among grades five through grades twelve over a period of two years, Eccles et al. (1983) found the students' expectancies for success in math correlated strongly with self-perception of ability in math. Similarly, the importance of math task value beliefs correlated strongly with expectancies for success and ability in math. The self-perception of ability in math was found to predict expectation for success in math and the importance of math task value. In a study with 742 children in grades five through twelve over a period of two years, Eccles et al. (2003) found expectancy beliefs were related to the task values of interest, importance and usefulness.

Similar findings were found in a study of fifth through twelfth graders over a period of two years by Eccles and Wigfield (1995). Expectancies beliefs and task values were found to be positively correlated. They found that the task value of interest in math was positively related to the children's competence-related beliefs. In addition, the expectancy-related beliefs was positively related to the task values of importance and usefulness. Children, for example, who have positive ability beliefs and approach achievement tasks with a high expectancy of success, consistently demonstrate high levels of persistence and performance on those tasks (Xiang, McBride, Guan & Solmon, 2003).

In a study with 366 students, Greene et al. (1999) examined gender and motivation in high school mathematics classes through an expectancy-value framework. They found that the task values of usefulness, importance and interest were positively related to the students' self-perception of ability.

Similar results were also found in Meece, Wigfield and Eccles (1990) study examining factors influencing junior high school students' math achievement. The two expectancy beliefs measures, expectancy for success and ability were positively related to the importance of task value. In addition, the expectancy beliefs and values measures predicted math anxiety, math grades and course enrollment intentions respectively.

Further link between the two constructs were supported by Xiang, McBride and Guan (2004) in a longitudinal study examining elementary school children's motivation in physical education. They revealed that the expectancy-related beliefs and subjective task values were positively related to each other for cohort one (across second to third grades) and cohort two (across fourth to fifth grades) over time in physical education.

Similar findings have reported that the two constructs were positively related to each other across grade and gender in physical education and throwing (Xiang, McBride, Guan, 2004).

They found a positive association between expectancy-related beliefs and task values among 414 students in the second and fourth grades in elementary physical education.

In a longitudinal study, Wigfield et al. (1997) examined changes in children's competence beliefs and values of different activities across the elementary school years. They found that expectancy and task values were positively related to each other especially in their interest for mathematics, reading, music and sports.

Gender differences

Another purpose of this study is to examine gender differences in adolescent athletes' competitive beliefs and subjective task values. Gender differences have been found in expectancy-related beliefs and subjective task values for activities in different domains such as math, science and physical education.

Wigfield et al. (1989, 1990) examined gender and age differences in children's competence perceptions and their value of Mathematics, reading, sports activities, social activities, music, computer activities and self-esteem. They found that boys had higher ability perceptions for mathematics, sports, and computer activities while girls placed more emphasis on music and social activities. The boys liked and rated sport activities as more important than girls. The girls liked and rated mathematics, music and reading as more important than boys. However, there are no gender differences in worries about doing poorly in reading, computer or sports activities.

In two longitudinal studies Eccles and Harold (1991) applied the Eccles' expectancy-value model to understand gender differences in sport, mathematics, English, reading and writing involving elementary and high school children. Their first study found that the boys have higher ability beliefs than girls' for sports and mathematics, while girls' ability beliefs were higher than boys in English. In addition, the boys reported higher task values of importance, usefulness and enjoyable than girls in sports. Conversely, the girls reported higher task values of importance, usefulness and enjoyable than boys in English. The study further showed that the boys were more involved in sports than girls. Their second longitudinal study involved 875 children over a span of four years showed that boys have higher ability beliefs than girls for sports and mathematics. In addition the boys also rated sports as more important, useful and enjoyable. In contrast, the girls reported higher ability beliefs than boys in reading. The girls found mathematics and reading as more important and enjoyable. The girls rated sport as the least useful domain as compared to mathematics and reading. The differences in their useful of mathematics and reading between boys and girls were not significant.

Further evidence were proven in Eccles, Wigfield, Blumenfeld and Harold (1993) study on the development of children's self-and task perceptions during the elementary school years. They found that boys have higher competence beliefs in sports and mathematics. Conversely, girls' competence beliefs were higher than boys in music and tumbling. The boys have higher task values in sports than girls. Conversely, the girls valued reading and music more than boys. This pattern of gender differences was similar to Wigfield and Eccles (1994) study on developmental changes across elementary school years and junior high school transition in children and adolescents. Wigfield and Eccles (1994) study found the boys' and girls' competence beliefs and valuing of activities differed in gender stereotypic ways. The boys have higher competence beliefs than girls for sports and mathematics. The girls have high competence beliefs for English. Boys rated sports as a more important activity, whereas girls preferred English and social activities for the value of importance. Boys liked sports more than girls, whereas girls reported liking social interactions and English for the value of interest. These gender differences

in competence beliefs confirmed and extended previous cross-sectional work by Wigfield, et al. (1989, 1990) where girls were more likely to report lower ability beliefs and expectancies for success and valued math and sport activities less than boys (Xiang, McBride & Bruene, 2006).

Further evidence of gender differences in competence-related beliefs and valuing of Mathematics, music, sports, social activities and English/reading during childhood and adolescence were also found in Wigfield et al. (1997) study. Wigfield et al. (1997) found that boys' expectancy-related beliefs were higher than girls for sports and mathematics, while girls' expectancy-related beliefs were higher than boys for reading and instrumental music.

This pattern of gender differences was similar to Wigfield and Eccles (1994) study on developmental changes across elementary school years and junior high school transition in children and adolescents. Wigfield and Eccles (1994) study found the boys' and girls' competence beliefs and valuing of activities differed in gender stereotypic ways. Compared to girls' beliefs, boys' competence beliefs were higher for sports and Mathematics, whereas girls' competence beliefs were higher than boys' beliefs for reading and instrumental music. The study showed the presence of early emergence of gender-role stereotypic patterns of competence beliefs and subjective task values across the elementary and junior high school years. Although the boys were reported to have greater interest in sports than girls relative to other activities (music, reading and Mathematics), both boys and girls were found to be most interested in sports showing that sport activities have great appeal for children of these ages.

Wigfield and Eccles (1994) conducted further studies on the transition period of children from sixth grade in elementary school to seventh grade in junior high school. Changes in their competence beliefs and subjective valuing of Mathematics, English, social activities and sports activities were examined. Gender differences in competence beliefs were observed. The boys have higher competence beliefs for sports and Mathematics than girls. The girls have high competence beliefs for English. Boys rated sports as a more important activity, whereas girls preferred English and social activities for the value of importance. Boys liked sports more than girls, whereas girls reported liking social interactions and English for the value of interest. These gender differences in competence beliefs confirmed and extended previous cross-sectional work by Eccles et al. (1983) where the boys liked sports more than social activities and Mathematics more than English, whereas girls liked social activities more than sports (Wigfield & Eccles, 1994).

Xiang, McBride, Guan and Solmon (2003) also reported gender differences in elementary school-aged children. Boys in second and fourth grade and girls in second grade had higher expectancy-related beliefs and stronger intentions for future participation in physical education than fourth grade girls. Compared to the three other groups, the fourth-grade girls had the lowest expectancy-related beliefs and showed less intention for future physical education participation (Xiang, McBride & Bruene, 2006). Contrary to previous studies (Eccles and Harold, 1991; Eccles, Wigfield, Blumenfeld and Harold, 1993; Wigfield et al., 1997; Wigfield, Eccles, Harold, Blumenfeld, Yoon and Freedman-Doan, 1989, 1990; Xiang, et al., 2003), Xiang, McBride & Bruene (2004, 2006) found no significant gender differences on expectancy-related beliefs, subjective task values and intention for future participation in running on 113 and 125 fourth-grade students.

METHOD

Participants

The participants were 632 adolescent athletes (349 males, 283 females) who participated in the 34th Sarawak School Sports Inter-Division Athletic Meet which was held in Miri, Sarawak. There are 11 divisions under the Sarawak School Sports Council, namely, Kuching, Sri Aman, Sibu, Miri, Limbang, Sarikei, Kapit, Samarahan, Bintulu, Mukah and Betong. These athletes represented their respective divisions in the competition and are considered the best within the state level in their age groups of 15 and 18 years. These age groups were chosen because of the research suggesting that participation motives and achievement behaviour changes around this age (White, 1999). Prior to the study, permission were obtained from the relevant authorities were obtained and participation was voluntary.

Instrumentation

The survey questionnaire were taken and adapted from questionnaires developed and used by Eccles et al. (1983), Xiang, McBride & Guan (2004), Xiang, McBride, Guan and Solmon (2003), and Xiang, McBride and Brune (2004). The questionnaire which represented the domains of the Eccles expectancy-value model were designed to measure expectancy-related beliefs, subjective task values and intention for future participation in athletics. The questionnaire consisted of 18 items assessing athletes' self perceptions of their ability, expectations of success, perception of attainment value, utility value, intrinsic value and cost value. All of these items were specific to athletics. The items are measured on a 7-point Likert type response scales anchored at both ends.

The expectancy-related beliefs subscale comprised of expectancy-related beliefs and expectancy for success. Whereas the subjective task values subscale comprised of attainment value, utility value, intrinsic value and cost value.

The following is a brief description of each of the subscales used in this questionnaire:

(1) Expectancy-related beliefs: The athletes were asked three questions to assess their general ability and expectancies for success in athletics. For example, "How good are you at physical activities and training in athletics?" (1 = not at all good, 7 = very good).

(2) Expectancies for success: The athletes were asked two questions to assess expectancies for success in athletics. For example, "How well do you think you will learn physical activities and training in athletics this year?" (1 = not at all well, 7 = very well).

(3) Attainment value or importance: The athletes were asked two questions to assess the importance of doing well on a task in athletics. For example, "For me, being good at physical activities and training in athletics is .."(1 = not very important, 7 = very important).

(4) Intrinsic or interest value: The athletes were asked two questions to assess the enjoyment or satisfaction inherent in engaging in an activity. For example, "In general, I find learning new physical activities and training in Athletics is ..." (1 = very boring, 7 = very fun).

(5) Utility value or usefulness: The athletes were asked two questions to assess perceived usefulness of a task to them. For example, "Compared to your other school subjects, how useful is what you learn in Athletics? (1 = not at all useful, 7 = very useful).

(6) Cost: The athletes were asked six questions to assess the negative aspects of doing a task, effort as well as the psychological cost such as having anxiety during performance or having a fear of failure. For example, "Is the amount of effort it will take to do well in Athletics worthwhile for you?" (1 = not very worthwhile, 7 = very worthwhile). The athletes were asked two questions to assess the amount of effort exerted which is necessary to do well in athletics. For example, "How hard do you have to train for competition to get good results/medals in Athletics?" (1 = a little hard, 7 = a lot hard). Two questions were asked to assess the anxiety of their performance in athletics. For example, "How much do you worry about doing badly in Athletics?" (1 = not very worry, 7 = very worry).

The scoring for each of the six subscales is determined by calculating the mean of all items that comprised each subscale. The mean score is averaged to give the total score for the self-reported measures. Higher scores indicate positive expectancy-related beliefs and subjective task values.

Validity and reliability of the instrument

The survey questionnaire has demonstrated excellent validity and reliability with similar ages in academic, sports and physical education settings (Jacobs et al., 2002; Xiang, McBride & Guan, 2004; Xiang, McBride, Guan & Solmon, 2003,).

In a longitudinal study of perception of self competence and task values in sports, language arts and mathematics, Jacobs et al. (2002) administered the questionnaire to 761 children as they progressed from grades one through twelve. The reliability and validity of the questionnaire were high ranging from .73 to .93 across domains and times of measurement.

In another longitudinal study examining children's motivation in physical education, Xiang, McBride and Guan (2004) administered the questionnaires to 207 students from five elementary schools. The alpha coefficients for the expectancy-related beliefs subscales demonstrated adequate reliability of .63 for the first-year data and .68 for second-year data. Whereas, the subjective task values subscales produced an alpha coefficient of .62 for the first year data and .65 for the second year data. Xiang, McBride, Guan & Solmon (2003) administered the questionnaires to 414 students from the second and fourth grades to examine their motivation in elementary physical education. The expectancy-related beliefs and subjective task values subscales of the questionnaire demonstrated acceptable internal consistency of .60 and .74 for physical education and .83 and .77 for throwing, respectively.

Psychometric properties of the questionnaires

The internal consistency of the expectancy-related beliefs and subjective task values were assessed using standardised Cronbach's alpha coefficients. Table 1 presented the reliability of expectancy-related beliefs and subjective task values. The Cronbach's alpha for the overall questionnaire was .84 showing high reliability. The questionnaire further showed alpha results of .81 for the expectancy-related subscale and .82 for the subjective task values subscale. The reliability coefficients for these two subscales exceeded the value of .70 showing adequate reliability (Nunnally, 1978). The Cronbach's alpha of the six subscales for expectancy-related beliefs and subjective values are found to be adequate ranging from .68 to .76.

Table 2. Reliabilities for Expectancy-related beliefs and Subjective Task Values

| Scale | Internal consistency |
|--------------------------------------|----------------------|
| Overall Scale | .84 |
| Expectancy-related beliefs subscales | .81 |
| Beliefs about ability | .71 |
| Expectancies for success | .76 |
| Subjective task values subscales | .82 |
| Attainment value / importance | .70 |
| Intrinsic value / interest | .62 |
| Utility value / usefulness | .70 |
| Cost | .68 |

Data Analysis

Both descriptive and inferential statistics were used to analyse the data. The data was coded, edited and analysed using the Statistical Package for the Social Science (SPSS) Version 10.

Descriptive statistics such as means and standard deviations were used to analyse the data derived from the questionnaires. As there were only two groups independent sample t-test were computed to identify if significant difference existed between expectancy-related beliefs and subjective task values among gender. The test of significance was set at the probability level of $p < 0.05$. Pearson product-moment correlations were computed to examine the relationship between expectancy-related beliefs and subjective task values

FINDINGS

Socio-demographic characteristics of participants

Table 3 presented the socio-demographics characteristics of the participants. Out of the total number of participants in the study ($n = 632$), 349 (55.2%) were male and 283 (44.8%) were female as shown in Table 3. This showed that there were slightly more male athletes than female athletes participating in the competition. The age-group categories showed that 421(66.6%) of the respondents are aged 13 to 15 years and 211(33.4%) are aged 16 to 18 years. The athletes' mean age were 15.1 years old ($SD = 1.2$). These athletes were competing at the state level athletic competition in Sarawak. This indicated that a higher percentage of younger athletes were more likely to participate in the competition than the older athletes. The results revealed that adolescent athletes' sports participation peaked between the ages of 13 – 15 years and then consistently declined between the ages of 16 – 18 years.

The distribution in terms of ethnicity showed that Iban formed the largest percentage with 52.5%. This is followed by Chinese, Others and Malay comprising of 16.9%, 13.0% and 11.6% respectively. The Bidayuh and Indian formed the minority of the groups with only 5.7% and .3% respectively.

Of the 632 athletes, 471 (74.5%) were rural athletes and 161(25.5%) were urban athletes. This showed that rural athletes are more likely to participate in athletics than the urban athletes despite the limited resources and lack of diverse sports opportunities often faced in the rural schools as compared to the urban schools.

Table 3. Demographic Characteristics of Participants by Frequency and Percentage (N = 632)

| Variable | Frequency | Percentage |
|----------------------|-----------|------------|
| Gender | | |
| Male | 349 | 55.2 |
| Female | 283 | 44.8 |
| Age groups (years) | | |
| 13 – 15 | 421 | 66.6 |
| 16 – 18 | 211 | 33.4 |
| Mean 15.15 SD = 1.27 | | |
| Ethnicity | | |
| Iban | 332 | 52.5 |
| Bidayuh | 36 | 5.7 |
| Cina | 107 | 16.9 |
| Melayu | 73 | 11.6 |
| Indian | 2 | .3 |
| Others | 82 | 13.0 |
| Location | | |
| Urban | 161 | 25.5 |
| Rural | 471 | 74.5 |
| Total | 632 | 100% |

Gender differences

The first objective of this study was to determine gender differences in expectancy-related beliefs and subjective task values. Table 4 revealed a statistically significant difference between male and female athletes in expectancy-related beliefs, $t(630) = 2.21, p = .027$. The male athletes ($M = 5.12 \pm .86$) have slightly higher expectancy-related beliefs than female athletes ($M = 4.97 \pm .80$) showing more competence in athletics.

Table 4. Independent t-test of expectancy-related beliefs score difference based on gender (N = 632)

| Expectancy-Related beliefs | | M | SD | Mean difference | t-test | | |
|----------------------------|----------------|------|-----|-----------------|--------|-----|------|
| | | | | | t | df | p |
| Gender | Male (n=349) | 5.12 | .86 | 1.48 | 2.21 | 630 | .027 |
| | Female (n=283) | 4.97 | .80 | | | | |

As shown in Table 5, there was no statistically significant difference between male and female athletes in subjective task values, $t(630) = 1.62$, $p = .107$ even though there was a difference in the means. The results indicated that the mean task values of male athletes ($M = 5.35 \pm .76$) were slightly higher than female athletes ($M = 5.25 \pm .76$) showing higher values in athletics.

Table 5. Independent t-test of subjective task values score difference based on gender (N = 632)

| Subjective Task Values | | M | SD | Mean difference | t-test | | |
|------------------------|----------------|------|-----|-----------------|--------|-----|------|
| | | | | | t | df | p |
| Gender | Male (n=349) | 5.35 | .76 | .09 | 1.62 | 630 | .106 |
| | Female (n=283) | 5.25 | .76 | | | | |

Relationship between expectancy-related beliefs and subjective task values

The second objective of this study was to examine the relationship between expectancy-related beliefs and subjective task values. As shown in Table 6, expectancy-related beliefs and subjective task values are moderately and positively related to each other ($r = .63$, $p < 0.01$).

Table 6. Pearson's correlation coefficients between expectancy-related beliefs and subjective task values

| Variable | 1 | 2 |
|---------------------------------|---|-------|
| 1. Expectancies-related beliefs | — | .63** |
| 2. Subjective task values | | — |

Note. ** $p < .01$, two-tailed.

DISUSSSION

The main purpose of this study was to examine adolescent athletes' motivation in athletics within an expectancy-value model developed by Eccles and her colleagues. This study supported previous studies (Eccles, 1984, Eccles et al., 1983; Eccles, Wigfield, Harold & Blumenfeld, 1993) which have consistently found female participants reporting lower competence beliefs than males. As predicted, the males' expectancy-related beliefs were slightly higher than the female athletes. Thus, the male athletes were more motivated to participate in athletics in the future as compared to the female athletes with a higher level of competence. This is because when individuals feel competent that they can be successful at a particular task, they are more likely to choose to do the task and maintain their effort, even under adverse conditions (Wigfield, Eccles, & Rodriguez, 1999). This showed that when an athlete feels that the activity is appropriate for his/her gender, he/she also feels more competent in that activity (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, Adler, & Meece, 1984) as in many cases, females actually outperform males; yet other studies still show females as having lower self-perceptions (Pintrich & Schunk, 1996). This was proven by Xiang, McBride, Guan and Solomon (2003) who reported that fourth-grade girls were more likely than boys to hold lower expectancy-related beliefs about physical education and show less intention for future physical education participation.

Contrary to previous studies which have documented gender differences in subjective task values (Xiang, McBride, Guan, Solomon, 2003), this study showed no gender differences in the subjective task values. However, this finding is similar to Xiang, McBride and Bruene (2004) where no gender differences were found on the expectancy-related beliefs, subjective task values and intention for future participation in running. This finding indicated that both male and female athletes viewed athletics as important, interesting and useful demonstrating high levels of engagement in the sport. This showed that athletics is not due to gender-role stereotypes and socialization experiences that could affect the athletes' athletics-related attitudes and values. Thus, the male and female athletes are more likely to continue and participate actively in athletics as they placed high task values in athletics.

It is important that the relevant authorities such as the coaches influence the values than expectancies as high expectation for success is not inevitably linked to high task value; many easy task are rejected because of their perceived values are low.

The result of this study also supported the theoretical link between expectancy-related beliefs and subjective task values. This study has revealed significant positive correlation between expectancy-related beliefs and subjective task values. (Berndt & Miller, 1990; Eccles et al., 1983; Eccles et al., 2003; Eccles & Wigfield, 1995; Eccles et al., 1998; Greene et al., 1999; Meece et al., 1990, Wigfield et al., 1997; Xiang, McBride, Guan & Solmon, 2003). This showed that adolescent athletes tend to value activities when they have positive ability beliefs about them and high expectancies for success in those activities (Xiang, McBride, Guan & Solmon, 2003) which are essential to adolescent athletes' motivation and achievement in athletics.

CONCLUSION

This study used expectancy-value model of achievement choice to examine gender differences in adolescent athletes' expectancy-related beliefs and task values and the relations between these two constructs. The result of the study is able to provide additional evidence about gender

differences in adolescent's beliefs and values in a traditionally male-sex-typed domain. Analyses assessing gender differences in athletes' beliefs showed that the male athletes have more positive expectancy-related beliefs than female athletes. However, no gender differences were shown in the task values. The results also revealed a significant relation between expectancy-related beliefs and task values which further supports the links between these two constructs.

Limitation of the study

This finding of this study is limited to athletes from government aided secondary schools in Sarawak. Out of the total number of 176 secondary schools, only athletes from the under 15 and 18 years age groups who represented their respective 11 divisions in the annual Sarawak School Sports Council Inter-division Athletic Meet will be taken as sample.

The findings derived from this study are limited to the population of selected adolescent athletes in athletics and may not be generalized to athletes from other sports.

Implication of the study

This study added evidence of decreasing gender gap in sports as sports have been traditionally male-sex-typed and remained stable in both age groups of 15 and 18 years. Although the male athletes showed slightly higher level of competence than the female athletes, it does not imply that the female athletes have less positive views of their ability in athletics as the mean differences is very small. This showed that the female athletes do not stereotype athletics as a male domain and perceived athletics as gender neutral. This could be due to interventions by the Malaysian government in supporting sports for women which increased the women participation, involvement and motivation in sports.

Since expectancy-related beliefs and task values were related to each other, practitioners should look into developing positive beliefs and task values toward athletics regardless of the socially constructed meaning associated with sports. This is because an athlete who expects to do well in athletics and has high value for that task (enjoys task, believes it to be important and useful and perceives relatively few cost) would be expected to choose that task over others and to evidence high effort and persistence for that task (Stuart & Whaley, 2005). Parents, coaches and teachers can also played a big role in shaping the adolescent athletes' beliefs and behaviors through positive influences and making athletics training and activities interesting and fun. When the parents, coaches and teachers have high perceptions of adolescent's ability, the decline in adolescent's expectancy-related beliefs and task values are less dramatic (Fredricks & Eccles, 2002) and will all likely to increase engagement and eventually encourage participation in athletics (Daigle, 2003).

Suggestion for further research

The present study only examined gender difference which is only sufficient to address gender issues in athletics. Future research need to examine differences among ethnic groups and locality for a better understanding of adolescent athletes' motivation in athletics. Further replication of the study should be expanded to other sports in order to provide additional support that may facilitate or hinder the generalization of motivational beliefs.

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