It is well proven that a physically active lifestyle has associated health and social benefits and is linked to a sense of wellbeing. It is also acknowledged that not all groups in society have the same opportunities to engage in sport and physical activity, and that participation can be gendered. This paper presents a study of the sport participation of females with a disability within Australia to better understand some of the key drivers to enhance levels of involvement in sport and thus facilitate a healthier lifestyle. The research design employed an online questionnaire available for completion in nine formats depending on the disability type and the support needs of individuals responding. Questions sought both quantitative responses about levels of participation and qualitative responses about the constraints experienced and benefits received from participation. Some 266 women with disability responded, of which 86% indicated that they were active sport and recreation participants. The results show higher levels of participation by women who were independent or had lower to moderate support needs compared with women with high to very high support needs who had substantially lower levels of participation. Yet, when examining the constraints that these groups faced, rather than being intrapersonal in nature (e.g. the individual's impairment) there were a series of interpersonal (e.g. no one to participate with) and structural (e.g. government support) issues that constrain participation. The constraints were then examined from the perspective of those outside of sporting context those within the sporting context. For those who did participate, the benefits were identified as a sense of achievement together with improving health. The other key benefits were overwhelmingly social in nature, including belonging, companionship and having time with friends. The implications for sport and active recreation involvement generally and for sport participation in particular are discussed.
Females with a Disability and Participation in Sport

Escalating levels of childhood obesity, dramatic increases in sedentary behaviour across all age groups and alarmingly decreasing physical activity levels of young people, have generated much recent discussion about the associated community ‘costs’ of such lifestyles. Hence, there is a growing public awareness of the importance of providing better opportunities for people to lead more active and healthier lives. However, some population groups, such as people with disability, face greater challenges than others when it comes to maintaining good health and engaging in physical activity. For many people with disability, secondary health conditions include osteoporosis, reduced muscle strength and endurance, reduced aerobic fitness, increased spasticity, being overweight, hypertension and depression (Buffart et al., 2009). Participation in physical activity and sport can have positive effects on secondary conditions, and on functional independence, social integration, citizenship and quality of life (Durstine et al., 2000; Heath & Fentem, 1997). Involvement in physical activity and sport is a way to afford individuals with disability an opportunity to develop and maintain physical and mental health and general well-being.

In reporting on research that indicates that people with disabilities who are physically active accrue a range of benefits from their participation, Groff et al. (2009, p.319) note that such individuals have been found to: (i) be better adjusted and more satisfied with life, (ii) report having fewer days of pain, depression, anxiety, sleeplessness, and improved vitality, (iii) substantially increase their life expectancy, (iv) be stronger and have more stamina, (v) have improved cardiovascular health and fitness, (vi) experience fewer and less severe secondary health conditions, and (vii) develop a positive athletic identity. With the evidence overwhelmingly supporting the improved health, psychosocial and citizenship benefits of participation why are people with disability participating less than the general population? As stated in the introduction, people with disability, and women with disability in particular, identified a series of barriers to participation that deny them the benefits that they could be receiving.

The aim of the research presented in this paper is to explore the main barriers to and facilitators of physical activity for women with disabilities. The paper presents the results from a study on females and sport participation, as commissioned by the Australian Paralympic Committee. The data are a sub-set of a broader study of disability and participation in sport commissioned by the Australian Sports Commission (Darcy, Taylor, Murphy, & Lock, 2011).

People with a Disability and Participation

Current sport and active recreation provision for people with disability reflect the many historical and cultural contexts and issues faced by disabled populations. It has been argued that participation is a complex interaction between numerous factors and obviously some population groups have greater challenges and less opportunity than others. Within most countries, people with disability participate at a significantly lower rate in sport and active recreation than the rest of the population (Garber, Allsworth, Marcus, Hesser, & Lapane, 2008; Murphy & Carbone, 2008; Vanner, Block, Christodoulou, Horowitz, & Krupp, 2008).

Crawford and Godbey (1987) identified three categories of potential constraints with respect to leisure, and we suggest these could also apply to sport and physical activity. These are:
1. Intrapersonal — lack of self-confidence, lack of encouragement or lack of information about opportunities for leisure that affect preference or lead to a lack of interest in a particular type of leisure activity.
2. Interpersonal — associated with other individuals, including lack of leisure partners or lack of social interaction skills. Our
3. Structural — those that exist between individual preferences and participation in a leisure activity, including lack of finances, lack of transportation, limited abilities, lack of time or architectural barriers.

The leisure constraints experienced by people with disability vary for individuals depending on their impairment, level of independence, race and gender (Bedini, 2000; Bedini & Henderson, 1994; Dattilo, Caldwell, Lee, & Kleiber, 1998; Fitzgerald, Jobling, & Kirk, 2003; Henderson & Bedini, 1997; Henderson, Bedini, Hecht, & Schuler, 1995; Hunter, 1984; Oliva & Simonsen, 2000; Perry, 1994; Rimmer, Rubin, & Braddock, 2000; Smears, 1996; Wade & Hoover, 1984). The combination of these "double whammies" (Henderson & Bedini, 1997), increase the complexity of understanding the social phenomena and how to provide the appropriate/best social responses to facilitate sport and active recreation participation. Yet, surprisingly few studies have examined the leisure constraints of women with disability participation in sport and active recreation. Table 1 provides a useful categorisation barriers and constraints.

Table 1: Barriers to sport, recreation and leisure participation for people with disability

<table>
<thead>
<tr>
<th>Category</th>
<th>Barrier and description</th>
</tr>
</thead>
</table>
| Intrinsic        | Lack of knowledge — about leisure programs, facilities, resources and other information required in order to make informed choices.  
                  | Social ineffectiveness — some people with disability may have ineffective social skills.  
                  | Health-related issues — people with disability, like the rest of the community, may have health-related issues that have an impact on their participation.  
                  | Physical and psychological dependency — some people with disability have physical dependency due to their impairments, while others may have a ‘learned’ psychological dependency (for example, attendant assistance).  
                  | Skill/challenge gaps — as conceptualised in ‘flow’ theory, skill/challenge gaps are a major consideration in choice of leisure activity. |
| Environmental     | Attitudinal barriers — a variety of attitudinal barriers may be faced by people with disability. These include negative behaviour towards individuals (for example, exclusion, verbal abuse, violence), paternalism (for example, treated as childlike, assumed decision-making roles) and apathy (for example, ignoring existence and, hence, exclusion).  
                  | Architectural barriers — to the built environment. Effective legislation, design, planning and construction can help to overcome these barriers and is discussed in greater detail later.  
                  | Rules and regulations barriers — in some situations, rules and legislation have been enacted that deliberately discriminate against people with disability (for example, international air carrying regulations).  
                  | Transport barriers — for people with higher support needs, there is a lack of suitable and affordable accessible transport.  
                  | Economic barriers — people with disability experience far higher rates of unemployment (from the average to 99%, depending on a range of factors) and, therefore, are economically disadvantaged. Further, many impairments
have additional costs that must be met by the individual (for example, equipment, wheelchairs, personal care consumables). Barriers of omission — this includes all those facilities, programs, policies and procedures that do not incorporate inclusive practices for people with disability (for example, modified rules).

| Communicatio (interpersonal) barriers | Communication — cannot be thought of as primarily intrinsic or extrinsic, as communication involves reciprocal interaction between the individual and her/his social environments. Therefore, barriers arising can occur through the sender, the receiver or both. Further, people with disability may have multiple disabilities that affect communication (for example, speech, hearing, sight, cognitive, brain damage). |

Source: Smith et al. (Smith, Austin, Kennedy, Lee, & Hutchison, 2005)

Yet, as Smears (1996) noted in response to Henderson et al. (1995), much of this body of work has not been based on a disability perspective but a medical approach or on the researcher’s theoretical position. This work has made assumptions about disability that focused on the individual’s loss, although the findings of much of the above research consistently identified structural constraints as the major constraints identified by people with disabilities. However, critiques of constraint models suggest that grounded analysis should be considered to examine emergent themes from people’s experiences rather than be defined by the researcher (Samdahl & Jekubovich 1997a; 1997b). Similarly, leisure constraints research has been criticised for its reliance on quantitative, survey based methodologies that focus on social psychological paradigms. The results of leisure constraints research could be regarded as the product of a particular kind of social science rather than as objective social science research (Jackson & Scott 1999).

With respect to the participation of women with disability in sport and active recreation, there have been two broad bodies of literature that need to be acknowledged. The first, developed from the medical and sport science literature that focuses very much on understanding the biological and medical responses of women with disability’s sport performance. This body of work has developed in response to understanding the biomechanical and physiological implications of women with disability's participation (e.g. Guthrie & Castelnuovo, 2001; Harrison, Umberson, Lin, & Cheng, 2010; Rantanen et al., 1999; Van Der Ploeg, Van Der Beek, van der Woude, & van Mechelen, 2004). This literature has focused on understanding and improving the physical and psychological ability of women to perform in sport. A second body of work can be framed from a social constructionist perspective that seeks to understand the broader social phenomena of women with disability's sport and active recreation engagement. It interrogates the social, cultural, political and economic implications (e.g. Ashton-Shaeffer, Gibson, Holt, & Willming, 2001; DePauw & Gavron, 2005; Jordan, 2010) and includes the research on leisure constraints as they relate to women’s participation identified previously. More recently, contemporary approaches to disability that can be conceptualised around the social model of disability have been introduced (Oliver, 1996) to focus attention on the disabling barriers facing people with disability and seek transformative enabling solutions to improve disability citizenship (Barnes & Mercer, 2010; Swain, Finkelstein, French, & Oliver, 2004). Contemporary manifestations of the social model have been influenced by feminist studies (Thomas, 1999) and clearly identify that being a person with disability has gendered nuances within sport and recreational settings. Gender has increasingly been included as part of studies examining sport and recreation participation and settings (Aitchison, 2003; Devine, 2004; French & Hainsworth, 2001; Liu, 2009; Lord & Patterson, 2008; Macbeth, 2010; Patterson & Pegg, 2009). Yet, most of this research has specifically looked at the participation and
nonparticipation of women with disability, the constraints they face and the benefits they receive if they participate.

**Method**
A questionnaire survey was developed using relevant literature and items from previous research and comprised four sections: benefits; constraints; patterns of participation and non-participation; and demographic and psychographic profile. The online questionnaire also incorporated leisure/sport constraints theory, benefits research and individual and social attitudes towards disability experienced by the respondents. Aspects of the national participation survey data (ERASS) was used to compare people with disability participation trends with the general population (Australian Sports Commission & State and territory government agencies, 2001-2009).

The online questionnaire used an electronic snowballing technique in conjunction with a database of 300 disability organisation contacts. The survey was self-report (or completed on behalf of the respondent by a family member or carer). The online questionnaire generated a significant sample of fully completed responses (n=1100). One of the defining elements that set this questionnaire apart from previous research was that it involved cross disability research where the survey was available in nine separate formats. These included: Survey monkey online questionnaire compliant to section 508 of the Americans with Disabilities Act; hard copy of the survey for those without access to the Internet; large print; easy text for blind people who use screen readers; braille for blind people who only use braille; easy English for people with intellectual disability who required the support of an attendant to complete the questionnaire; online version of the questionnaire with embedded Auslan video clips for the Deaf and hearing impaired community ; phone assisted completion for those who would prefer to answer via a person assisting; and online questioning specifically set up for people with mental health considerations.

The subset of female respondents is presented here and analysed for gender dimensions in participation rates and the constraints faced and the benefits received from sport and recreation involvement. Compared with Australian census data (eg. ABS 2006), the response profile indicates a self selection bias, which means that females that participate in sport were more likely to complete the survey. This is not surprising given that people who do not participate in sport and active recreation may not have had the predisposition to complete the questionnaire. The results should be read with this consideration in mind.

While the sampling method of electronic snowballing is an efficient means of contacting people with disability and those with access needs, limitations with respect to those who have access to the internet and those members who regularly check their organisational website or their electronic or print publications are noted.

**Respondent Profile**
The following results are based on a sample of 266 fully completed questionnaires. Respondents were females with a disability (average age of 31.9 years of age), 88.7% of these were born in Australia. As a quarter of the country’s population are born overseas (ABS, 2006) this sample is over representative of Australian born females. The largest group of respondents characterised themselves as a person with an intellectual/cognitive disability at 32.3% (Table 2) with very low levels of support needs.
The respondents were highly educated with 32.3% having completed at least an undergraduate diploma. Of the respondents 36.8% were engaged in paid employment. Those with an intellectual disability worked the least hours per week (M=14.13) while those with limited mobility using other aids work the most (M=23.91). There is a statistically significant difference between groups (p=0.000) indicating that those who have higher support needs work less hours per week.

Table 3 shows the correlation between disability type and level of support needs. It clearly indicates that people in a power wheelchair report require far higher levels of support than other disability groups and participated in the list of any group. This result is statistically significantly against all groups except those with an intellectual/cognitive disability.
### Table 3: Average response for level of support needs by disability type

<table>
<thead>
<tr>
<th>Main disability</th>
<th>Mean*</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility - Power wheelchair</td>
<td>3.50</td>
<td>1.235</td>
</tr>
<tr>
<td>Intellectual/ cognitive/ learning</td>
<td>3.03</td>
<td>.939</td>
</tr>
<tr>
<td>Mobility - Manual wheelchair</td>
<td>2.37</td>
<td>1.140</td>
</tr>
<tr>
<td>Mobility - No aid required</td>
<td>2.10</td>
<td>.860</td>
</tr>
<tr>
<td>Mobility - Other mobility aids</td>
<td>2.04</td>
<td>.980</td>
</tr>
<tr>
<td>Blind or vision</td>
<td>1.95</td>
<td>.959</td>
</tr>
<tr>
<td>Physical - not affecting mobility</td>
<td>1.69</td>
<td>.850</td>
</tr>
<tr>
<td>Total</td>
<td>2.47</td>
<td>1.126</td>
</tr>
</tbody>
</table>

* Support needs scale: 1=none, 5=very high

### Activity Characteristics

A sizeable proportion (85.7%) of the respondents participated in sport and recreation activities in the 12 months preceding the survey. These are extremely active participants, the majority of which participate more than twice per week (20%) and over half of the sample (56%) participated in at least two activities. The most common activities for females were recreational swimming (46.5%), going to the gym (18%) and ten pin bowling (8.8%). The main activity that they engaged with is participated on average 266 minutes per week, 6 times per week and 22 times per month.

The largest group of active participants were people with an intellectual/cognitive disability (35.1%) while the two largest groups of non-participants were those using a power wheelchair and those with a mobility problem without aid required (21.1% each) (Figure 3). All groups were very likely to participate in sport and recreation however, blind/vision impaired people were much more likely to participate in sport (95% participation) while power wheelchair users were less likely to participate (60% participation) (Figure 3).
People who require greater amounts of support participated less in sport and this correlation is statistically significant (p=0.038). As a group, people with a physical disability (not affecting mobility) participate in sport and recreation at a greater rate than other groups (Figure 3). They also have a statistically significantly higher rate of participation than those in power wheelchairs (p=0.002), those requiring other mobility aids (p=0.000) and those with a cognitive/intellectual disability (p=0.039).

Respondents were asked to rate their health, fitness and participation in sport and recreation out of 5 (Excellent). Non-participants rated their health, fitness and participation in sport and recreation more poorly than participants and this result was statistically significant (3.11 vrs 2.09).

Women that identified they had a physical disability that does not affect their mobility, on average, reported better health, fitness and participation. On individual items...
they believed that they were the most fit and participate in the most sport and recreation, however, blind /vision impaired respondents felt that they were healthier compared to other groups. Females rated themselves more poorly on each item than males, however, this result is only statistically significant for level of fitness (p=0.006) and sport participation (p=0.032) ie not fitness. These ratings were also compared by level of support needs. Not surprisingly, there was a strong negative correlation - the higher the level of support required, the lower respondents rated their levels of health, fitness and sports participation.

Benefits and constraints

Women with a physical disability were the most satisfied with their level of participation, followed by women with Intellectual/ cognitive/ learning. On the other hand, power wheelchair users and those with no mobility aids indicated a desire for participating in a greater amount of sport (86% and 85% respectively). The top 10 benefits of sport participation are listed in table 4. A comparison with the results for males found that there were two statistically significantly more important benefits for women in sports participation. These were ‘to lose weight’ (t=-2.507, p=0.012) and ‘Improve health or reduce the risk of disease’ (t=-2.765, p=0.006).

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Mean*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Achievement</td>
<td>4.21</td>
</tr>
<tr>
<td>2. Improve health or reduce the risk of disease</td>
<td>4.21</td>
</tr>
<tr>
<td>3. Improve muscle tone</td>
<td>4.13</td>
</tr>
<tr>
<td>4. Improve heart and lung fitness</td>
<td>4.11</td>
</tr>
<tr>
<td>5. Opportunities to socialise with others</td>
<td>4.10</td>
</tr>
<tr>
<td>6. Do something stimulating</td>
<td>4.09</td>
</tr>
<tr>
<td>7. Improve self esteem</td>
<td>4.08</td>
</tr>
<tr>
<td>8. Build up muscle strength</td>
<td>4.08</td>
</tr>
<tr>
<td>9. Enjoy company of friends</td>
<td>4.05</td>
</tr>
<tr>
<td>10. Spend time with friends</td>
<td>4.04</td>
</tr>
</tbody>
</table>

* 1=Not at all important, 5=very important

There are several items that are statistically less important to women than men. These included: meet new people; have an adventure; encounter exciting things; and to be valued for my contribution. Some any other benefits identified through the open ended comments of respondents were:

- A sense of purpose – ‘I am a member of the Australian wheelchair women’s tennis squad; so am constantly aiming to improve my ability to be competitive at an elite level’ (Participant)
- Very important for my mental health. ‘In the past I’ve suffered from depression and sport and active recreation has helped me off ant-depressants which I have been taking for 14 years. Health has been so good during the last 3 years’ (Participant)
- Time away from home being independent. ‘Being able to do my ’own thing’. Enjoying the company of other participants in the classes’ (Participant)
- Increase in mobility function. ‘Also losing weight will not only aid my disability but will also recover my heart and respiratory issues which are largely due to obesity and a sedentary lifestyle’ (Non-participant).
The top 10 constraints to sports participation are listed in table 5. A comparison with male responses did not find any statistically significantly greater constraints however there were several items that were more constraining for women but not significant. The most statistically significant include of these were: too many domestic duties; too many responsibilities; feelings of guilt; and poor health.

### Table 5: Top 10 Constraints to sports participation

<table>
<thead>
<tr>
<th>Constraint</th>
<th>Mean*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lack of government support</td>
<td>3.16</td>
</tr>
<tr>
<td>2. No integrated sport and recreation programs available</td>
<td>2.97</td>
</tr>
<tr>
<td>3. Pricing</td>
<td>2.96</td>
</tr>
<tr>
<td>4. Lack of money</td>
<td>2.95</td>
</tr>
<tr>
<td>5. Lack of trained staff to support my participation</td>
<td>2.83</td>
</tr>
<tr>
<td>6. No access to facilities close to home/ work</td>
<td>2.82</td>
</tr>
<tr>
<td>7. Lack of personal income</td>
<td>2.82</td>
</tr>
<tr>
<td>8. No assessment of pwd's needs</td>
<td>2.78</td>
</tr>
<tr>
<td>9. No friends to participate with</td>
<td>2.77</td>
</tr>
<tr>
<td>10. Scarcity of places</td>
<td>2.74</td>
</tr>
</tbody>
</table>

* 1=Not at all important, 5=very important

The constraints were compared for participants and non-participants. All of the 50 items were rated as more constraining by non-participants and 31 of these are statistically significantly more constraining. The highest rated aspects included: no friends to participate with; no support to participate; lack of awareness of the benefits of sport and recreation; too many domestic duties; lack of accessible public transport; lack of accessible toilets and changerooms; sport and recreation not important; and, sport and recreation is ‘only for men’.

These results are reflected in the open-ended responses. Some of the responses from active participants were:

- lack of public transport most times, particularly weekends and after hours, no on site facilities in the workplace.

- I have a gym nearby but do not feel safe walking there and back. I work full time and already have to pay out for taxi's for that so cannot afford to pay out to attend gym as well. The friends I do have live too far away to take me and are not interested in attending with me. That is why I bought a treadmill myself, but this can be boring and isolating.

- I can only go swimming with a female carer and one who is confident in the water. I can only go to the gym with a carer who knows gym work and is able to stop me from hurting myself.
- Embarrassment due to disability and fear of not being able to participate well. Lack of confidence in their ability to succeed.

Non-participants stated the following:

- Live in small country town which does not really have any disabled friendly facilities.
- Cannot participate as people think you might get hurt and you would not be an asset to the team.

The respondents were given the chance to suggest some strategies that would support them in sport participation. Most of these were around provision of subsidies, better access to information about the benefits of sport participation; better education of the community about inclusive practices, and provision of ‘accessible’ equipment and transport. There were several comments about the need to ensure sport providers offered encouragement and support for women with disabilities, and the lack of opportunities for older women and the suggestion of a Seniors Para Games.

Conclusion

This research provides a foundation from which to gain an improved understanding of the participation of women with physical disabilities in recreational and sport activities. Such information can assist families and service providers in planning activities that fit with their family member with disability preferences and ensure active participation. The constraints framework suggests that while people have a disability that may impact on their access to participation, it is not the disability that constraints the participation in sport and active recreation but rather it is a complex interplay of structural constraints. From a policy perspective, this suggests that there are a series of strategies that could be put in place by government agencies charged with disability services broadly, government sport agencies, sport organisations and sport businesses that could act to improve participation by women with disability. Given the opportunity to participate, these active women reported experiencing a combination of social and personal benefits that are important for an individual's identity and citizenship. Governments and organisations should be encouraged to develop strategies for sporting engagement as improved sporting engagement can be a precursor to women with disability becoming engaged in all areas of life.
References


Influence of the “Off the Street, On the Ball” Midnight Football Program on Physical Fitness, Self-Esteem and Quality of Life in Youth-at-Risk

Lim BH, Abdul Halim Mokhtar, & Balbir SG
University of Malaya

Abstract

The main aim of this study was to investigate the influence of the “Off the Street, On the Ball” Midnight Football Program on physical fitness components, self-esteem and perception on quality of life between baseline and post-program in youth-at-risk. A total of 58 male participants in the pilot project “Off the Street, On the Ball” Midnight Football Program organized by the Social Responsibility Department, Asian Football Confederation (AFC) were recruited as the subjects of this study. They were aged 14-19 years, with a mean age of 16.72 (SD= 1.24) years. Instrumentations employed in this study were Yo-Yo Intermittent Test, Single Sprint Test, and Balsom Agility Test to measure aerobic endurance, speed and agility of the subjects on baseline and post-program. Two questionnaires were administered, the Influence on Quality of Life Scale (IQLS) and Rosenberg Self-Esteem Scale (RSES) to collect perception on quality of life and self-esteem on baseline and post-program. Between the baseline and post-program, all subjects were divided into eight groups followed four weeks of soccer-specific periodized training programme and controlled by certified coach assigned to them. Results of present study revealed that all physical fitness components (aerobic endurance, speed and agility) were significant difference between baseline and post-program at p < .05. For the self-esteem, results indicated significant differences favouring the post-program (t=-19.82, df=91, p<.05). An analysis of the individual items on the IQLS indicated that vast majority of the subjects either agreed or strongly agreed that involvement in the midnight football program positively influenced their perception on quality of life. Overall, the results of the current study lend additional support to the use of football program to develop positive self-esteem and creating opportunities to experience positive perception on quality of life. Thus, positive self-esteem and positive perception on quality of life are significantly more likely to reduce social risk factors for juvenile delinquency and serious antisocial behaviour in youth-at-risk in Asia, especially in Malaysia.

Key Words: midnight football program, physical fitness components, self-esteem, perception on quality of life
Introduction

It is commonly believed that time youth spend engaging in physical activity is timeless available for involvement in risk-taking behaviours and delinquency although the health benefits of participation in physical activity are well documented. Increased time in sport is likely to increase one’s exposure to various identity alternatives available through sport and afford individuals additional opportunity to change their self-perceptions (Stryker, 1987).

Based on the association between sports participation and elements of quality of life, Zabriskie, Lundberg, & Groff (2005) explored the relationship between an individual’s athletic identity and the influence of sports participation on quality of life. They reported a strong correlation between athletic identity and influence on quality of life for a group of 129 recreational athletes. The majority of participants either agreed or strongly agreed that participation in sports program positively influenced their overall health (79%), quality of life (84.2%), quality of family life (70%), and quality of social life (69.4%).

Today, physical conditioning is a key element for success in football competition (Wang, 1995). Without it, regardless of what skills and talents the players have, they cannot perform the sport efficiently (Wang, 1995). The physiological demands of football require players to be competent in several aspects of fitness, which include aerobic and anaerobic power, muscle strength, flexibility and agility (Reilly & Doran, 2003).

A good aerobic endurance base is critical because it improves performance by increasing the distance covered, enhancing work intensity, and increasing the number of sprints and involvements with the ball during a match (Helgerud, Engen, Wisloff, & Hoff, 2001). A greater endurance capacity can lead to more work performed during a match, as well as a faster pace throughout (Bangsbo, Norregaard, Thorso, 1991). Appropriate aerobic conditioning plays a significant part in allowing players to repeatedly perform high-intensity activity.

Anaerobic power refers to the ability of the neuromuscular system to produce the greatest possible impulse in a given time period (Cometri, Maffiuletti, Pousson, Chatard, & Maffulli, 2001). The emphasis in training should be mainly on the short distance sprints of 10-15 m, because these distances are more indicative of performance and match-winning actions than longer sprints of 30-40 m (Cometti et al., 2001).

Agility is the ability to change the direction of the body rapidly and is a result of a combination of strength, speed, balance and coordination (Draper & Lancaster, 1985). Agility performance is an important component of physiological assessment in football. The results from such evaluations should be used in conjunction with data from single sprints to provide an overall indication of a player’s ability to sprint and change direction rapidly (Little & Williams, 2003).

Self-esteem is a synthesis of descriptive valuation assessment concerning one’s own personality and one’s own actions. Self-esteem changes during life depending on the stage of the person’s development and situations and events that occur during their life. Self-esteem has a significant influence on human emotions and behaviour. A large deal of empirical research has focused on personality and social risk factors for juvenile delinquency and serious antisocial behaviour (Burton & Marshall, 2005; Donnellan, Trzesniewski, Robins,
Moffitt, & Caspi, 2005; Matsuura, Hashimoto, & Toichi, 2009b; Penney, Moretti, & Da Silva, 2008).

A number of such studies have pointed out low self-esteem, aggression, inattention, and impulsivity as strong risk factors (Brame, Nagin, & Tremblay, 2001; Del Bove, Caprara, Pastorelli, & Paciello, 2008; Frick, Cornell, Barry, Bodin, & Dane, 2003). In particular, low self-esteem has been implicated in a variety of youth-related problems such as deviant behaviour, social withdrawal, and bullying (Gardner, Dishion, & Connell, 2008; Menon et al., 2007; Rice, Lifford, Thomas, & Thapar, 2007). Adolescents with low self-esteem are significantly more likely to have development of mental illness, suffer poor physical health, risk more criminal convictions, and have fewer economic prospects in adult life when compared with adolescents with high self-esteem (Trzesniewski et al., 2006).

Research regarding the association between self-esteem and physical activity has suggested that participation in sports teams is positively associated with higher self-esteem (Keane, 2004; Pedersen & Seidman, 2004). Although physical activity has been associated with improvements in self-esteem (Alfermann & Stoll, 2000; Fox, 2000). There is little evidence to suggest that any one mode of activity is better than another, although most studies have focused on aerobic activity (Fox, 2000). Therefore, the main aim of the present study was to investigate the influence of the “Off the Street, On the Ball” Midnight Football Program on physical fitness components, quality of life and self-esteem in youth-at-risk and make comparisons between the baseline data and the post-program data.

Our review of existing literature on the subject showed that only a few researches, one of that could find explored the impact of swimming on self-esteem (Coatsworth & Conroy, 2006; Mummer, 2008). Also, given the popularity of football game in Malaysia and the differential value this might have in different segments of the population (Martin & Sinden, 2001), exploring self-esteem and its relationship to other forms of exercise or activity would also be advantageous.

There has been little empirical research to determine whether participation in the sporting program able to change the perception on the quality of life, particularly with the youth-at-risk. We postulated that there would be significant differences between the baseline and post-program data on the physical fitness components, self-esteem and quality of life.

**Objectives**

The main aim of this study was to investigate the influence of the “Off the Street, On the Ball” Midnight Football Program on physical fitness components, self-esteem and perception on quality of life between baseline and post-program in youth-at-risk. Other specific objectives are:

1. To compare the significance differences on the physical fitness components (cardiovascular endurance, speed and agility) between baseline and post- program data with specific tests.
2. To examine the perception on quality of life with the sub-scale of the Influence on Quality of Life Scale (IQLS) between baseline and post-program.
3. To compare the significance differences on self-esteem with the Rosenberg Self Esteem Scale (RSES) between baseline and post-program.
Subjects

A total of 58 male participants in the pilot project “Off the Street, On the Ball” Midnight Football Program organized by the Social Welfare Department, Asian Football Confederation (AFC) were recruited as the subjects of this study. They were aged 14-19 years, with a mean age of 16.72 (SD= 1.24) years. The participants of this program were selected through referrals from the member association of AFC, government, NGOs, sponsors and youth outreach organizations in Kuala Lumpur, Malaysia. They came from all walks of life and were generally unguided in the way they lived their lives, ie. School drop-out (36.21%), Juvenile school (39.66%), Disciplinary problems in school (22.41%) and others (1.72%) and majority of them came from the low income family (93.10%) and middle income family (6.90%).

All subjects were fully informed verbally and in writing about the nature and demands of the study. They completed a health history questionnaire and were informed that they could withdraw from the study at any time, even after giving their written consent.

Instrumentations

In order to measure the physical fitness components (aerobic endurance, speed and agility), three tests were carried out. These three field tests were used to evaluate the aerobic endurance, speed and agility of soccer players because these tests are the most commonly represented in the literature base. Fitness tests performed in the field may provide less accurate measurements than laboratory tests but they have greater specificity (Balsom, 1994; MacDougall & Wenger, 1991). Moreover, the field tests require minimal equipment and can be carried out anywhere. Also, results from field tests provide information on specific performance changes related to the sport and are less time consuming. Thus, three field tests chosen for current study were:

1. The Yo-Yo tests

The concept of shuttle running was used by Bangsbo (1993b) to devise a more football-specific assessment. The Yo-Yo tests were designed to measure the ability to perform bouts of repeated intense intermittent exercise (Yo-Yo intermittent endurance test) and the ability to recover from intense exercise (Yo-Yo intermittent recovery test) (Bangsbo, 1993b). The Yo-Yo tests have been used extensively in the assessment of the football-specific endurance capacity of players and referees (Krustrup & Bangsbo, 2001; Krustrup et al., 2003; Mohr et al., 2003a). The intermittent endurance test and the intermittent recovery test have also been used to differentiate playing positions (Bangsbo & Michalsik, 2002) and to differentiate between top-class and moderate ability football players (Mohr et al., 2003a). Due to the football-specific nature and easy administration of the Yo-Yo test, it would be a useful form of evaluation throughout the season to monitor changes in football-specific fitness. The Yo-yo Intermittent Recovery Test Level 1 (YYIRTL1) has been both externally and internally validated (Krustrup et al., 2001; Krustrup et al., 2003; Mohr et al., 2003a).
2. Single-sprint test

Speed is a very important component in football, as the ability to accelerate can decide important outcomes of the game. Players have to possess the ability to accelerate to meet the physical, tactical and technical demands of the game. During a match, players sprint over distances of 10 – 30 m for average durations of less than 6 s (Reilly & Thomas, 1976). Typically, 10-, 20- or 30-m sprints are used in the assessment of a player’s ability to sprint (Kollath & Quade, 1993; Strudwick, Reilly, & Doran, 2002).

10-m Sprint Time was measured using an electronic photo cells connected to a Lafayette 63501 timer (Lafayette Instrument Co. Systems, Lafayette, IN). A photocell was placed at the start, and 10 m. The first photocell was positioned at a height of 50 cm from the ground and the photocells of 10 m was placed at the height of the head of the boys, in an attempt to standardize the part of the body breaking the photocell (Balsom et al., 1992a). The boys started on a visual signal from a standing position and ran the 10-m distance as fast as possible on the soccer field. After 1 practice trial, 2 sprints were performed, separated by a 5-minute recovery period, and the fastest was used for subsequent analysis. All performance times were recorded with an accuracy of 0.001 seconds, and the time from 0 to 10 m recorded. This sprint distance was selected because this is the most common during soccer games (Bangsbo et al., 1991).

3. Test for the determination of agility

A good example of an agility test was described by Balsom (1994) and is illustrated in Figure 1. The test requires a player to perform two turns and several changes in direction. Performance on the test is determined by the time taken to complete the test course, with faster times signifying better performances. Time measured using an electronic photo cells connected to a Lafayette 63501 timer (Lafayette Instrument Co. Systems, Lafayette, IN). A photocell was placed at the start and finishing point.
4. Influence on Quality of Life Scale (IQLS)

The perception on quality of life between baseline and post-program from the subjects were collected with the Influence on Quality of Life Scale (IQLS: Zabriskie, Lundberg, & Groff, 2005) in this study. The IQLS (Zabriskie et al., 2005) was developed in an effort to measure an individuals’ perception of the influence of participation in a particular sport program, or experience on their quality of life. The IQLS asks respondents to agree or disagree with five statements regarding the influence of Midnight Football Program on their perception on quality of life. Items include the perceived influence of the “Off the Street, On the Ball” Midnight Football Program on overall health, quality of life, quality of family life, quality of social life, and family participation on the meaning of the experience for respondents. Items are scored on a 7-point Likert scale with responses ranging from ‘Strongly disagree’ to ‘strongly agree’. Total scores for the instrument can range from 5 – 35 with higher scores indicating that the “Off the Street, On the Ball” Midnight Football Program had a more significant impact on perceived quality of life. The IQLS has acceptable internal consistency (α = 0.87). Initial evidence of construct validity for its use with elite and recreational athletes has been reported (Zabriskie et al., 2005).
5. Rosenberg Self-Esteem Scale (RSES)

To measure self-esteem at the global level between baseline and post-program from the subjects, the Rosenberg Self-Esteem Scale (RSES: Rosenberg, 1965) was administered. The RSES is perhaps the most widely used self-esteem measure in social science research. The questionnaire has 10 items and all items were rated on a four-point Likert scale with verbal anchors of: Strongly Disagree (1), Disagree (2), Agree (3), and Strongly Agree (4) with the higher scores representing more positive self-esteem (Rosenberg, 1986). The RSES has good internal consistency, test-retest reliability, and convergent and discriminate validity (Blascovich & Tomaka, 1991). RSES was used in this study because it has shown the presence of method effects with negatively worded items in previous studies (Horan, DiStefano, & Motl, 2003; Motl & DiStefano, 2002; Tomás & Oliver, 1999). The current study revealed a Cronbach alpha of 0.81 for both baseline and post-program tests.

Procedures

The baseline data were collected on September, 2010, two days before the program kicks-off at the Padang Sri Johor, Taman Ikan Emas, Cheras, Kuala Lumpur. Immediately after a short briefing, the subjects were asked to response to the IQLS and the RSES questionnaires. These questionnaires took approximately 10 minutes to complete by the subjects. Trained project staff administered questionnaires to subjects at the competition venue following a standardized protocol that emphasized the confidentiality of participant reports. Approval by the Sports Centre, University of Malaya review board was obtained before initiating this study.

After completed the questionnaires, the subjects were divided into 3 groups to carry out the physical fitness tests (aerobic endurance, single-sprint and agility). The groups moved from one station to another after completed the test which stipulated for that station.

Post-program test for the program was held on October, 2010 when the subjects were completed the training sessions and competition program for four-week continuity, the same procedures in the baseline were applied in the post-program test. During the training period, the subjects were divided into eight groups to carry out the schedule training program based on their team coach, a few motivation and educational talks also were conducted by the PROSTAR CLUB, current National Football Players (from Malaysian Team), Social Welfare Department and AFC Officer. Topics covered related to effective way to quit smoking, mental health, how to be a good footballer, future career and technical issues pertaining football referee and coach.

Statistical Analysis

Descriptive statistic (mean and standard deviation) of the physical fitness components and sub-scales in IQLS between baseline and post-program were reported. To compare the variables between baseline and post-program, dependent samples t-test was used. The level of statistical significance is set at p<.05. Data were analyzed with SPSS 16.
Results

Physical Fitness Components

Results of present study revealed that all physical fitness components (aerobic endurance, speed and agility) were significant difference between baseline and post-program test at p < .05 as presented in Table 1.

Table 1: Comparison of Physical Fitness Components between Baseline and Post-program Test

<table>
<thead>
<tr>
<th>Test</th>
<th>Time-frame</th>
<th>Mean</th>
<th>SD</th>
<th>t-value</th>
<th>df</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yo-Yo Intermittent</td>
<td>Baseline</td>
<td>13.75</td>
<td>.83</td>
<td>-2.56</td>
<td>90</td>
<td>.012</td>
</tr>
<tr>
<td>(Level)</td>
<td>Post-program</td>
<td>14.27</td>
<td>1.11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10m Single Sprint</td>
<td>Baseline</td>
<td>2.56</td>
<td>.16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Second)</td>
<td>Post-program</td>
<td>2.49</td>
<td>.16</td>
<td>1.99</td>
<td>90</td>
<td>.049</td>
</tr>
<tr>
<td>Balsom Agility</td>
<td>Baseline</td>
<td>14.60</td>
<td>1.11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Second)</td>
<td>Post-program</td>
<td>13.36</td>
<td>.74</td>
<td>6.23</td>
<td>90</td>
<td>.001</td>
</tr>
</tbody>
</table>
Global Self-Esteem

Table 2 shows results for the self-esteem for the subjects. Results indicated significant differences favouring the Post-program test ($t=-19.82$, df=91, $p<.05$).

<table>
<thead>
<tr>
<th>Time-Frame</th>
<th>Mean</th>
<th>SD</th>
<th>t-value</th>
<th>df</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>17.43</td>
<td>1.69</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-19.82</td>
<td>91</td>
<td>.001</td>
</tr>
<tr>
<td>Post-program Test</td>
<td>24.06</td>
<td>1.33</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Quality of Life Responses

An analysis of the individual items on the IQLS indicated that the majority of participants thought that the “Off the Street, On the Ball” Midnight Football Program had a positive influence on several aspects of their quality of life. The vast majority of the subjects either agreed or strongly agreed that involvement in the midnight football program positively influenced their overall health (98%) from the base line (6.9%). Perception on other aspects on quality of life also had a positive influenced as presented in Table 3.
Table 3: Comparison on Perception Quality of Life between Baseline and Post-program-Test with Influence on Quality of Life Scale (IQLS)

<table>
<thead>
<tr>
<th>The Mid-Night Football Program have had a positive</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Some what disagree</th>
<th>Neither agree nor disagree</th>
<th>Some what agree</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>% of agreed and strongly agreed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of Overall Health</td>
<td>0</td>
<td>0</td>
<td>6.9</td>
<td>0</td>
<td>29.3</td>
<td>0</td>
<td>22.4</td>
<td>6.9</td>
</tr>
<tr>
<td></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>1.7</td>
<td>0</td>
<td>8.6</td>
<td>0</td>
<td>6.9</td>
<td>0</td>
<td>19.0</td>
<td>41.4</td>
</tr>
<tr>
<td></td>
<td>1.7</td>
<td>0</td>
<td>8.6</td>
<td>0</td>
<td>6.9</td>
<td>0</td>
<td>19.0</td>
<td>41.4</td>
</tr>
<tr>
<td>Quality of Family Life</td>
<td>5.2</td>
<td>0</td>
<td>3.4</td>
<td>0</td>
<td>5.7</td>
<td>1.7</td>
<td>3.9</td>
<td>5.2</td>
</tr>
<tr>
<td></td>
<td>5.2</td>
<td>0</td>
<td>3.4</td>
<td>0</td>
<td>5.7</td>
<td>1.7</td>
<td>3.9</td>
<td>5.2</td>
</tr>
<tr>
<td>Quality of Social Life</td>
<td>3.4</td>
<td>0</td>
<td>10.3</td>
<td>8.6</td>
<td>6.9</td>
<td>0</td>
<td>10.3</td>
<td>8.6</td>
</tr>
<tr>
<td></td>
<td>3.4</td>
<td>0</td>
<td>10.3</td>
<td>8.6</td>
<td>6.9</td>
<td>0</td>
<td>10.3</td>
<td>8.6</td>
</tr>
<tr>
<td>Family Participation</td>
<td>5.2</td>
<td>2.9</td>
<td>10.3</td>
<td>5.7</td>
<td>6.9</td>
<td>2.9</td>
<td>3.4</td>
<td>2.9</td>
</tr>
<tr>
<td></td>
<td>5.2</td>
<td>2.9</td>
<td>10.3</td>
<td>5.7</td>
<td>6.9</td>
<td>2.9</td>
<td>3.4</td>
<td>2.9</td>
</tr>
</tbody>
</table>
Discussions

Results of the present study revealed that all the physical fitness components chosen had significant differences between baseline and post-program in the subjects as a consequence of training. Football training drills and games involved continuous running, speeding and changes of direction. Thus, aerobic capacity, speed and agility performances improved with this type of training. Aerobic capacity was significant differences at baseline and post-program performance ($t=-2.56$, df=90, $p<.05$) with Yo-Yo Intermittent test; speed was significantly difference between baseline and post-program ($t=1.99$, df=90, $p<.05$) with 10m Single Sprint and agility also showed significant difference between baseline and post-program ($t=6.23$, df=90, $p<.05$) with Balsom Agility test.

Findings of current study was consistent with previous study that training-induced changes in aerobic fitness have been extensively studied in young athletes, it seems that aerobic training (interval or continuous) leads to a mean improvement of 5-10% of VO2max in active children and adolescents as compared to improvement magnitude of 20% or more in adult athletes (Baquet, Van Praagh, & Berthoin, 2003). The results of this study supported that the aerobic system is the main source of energy provision (Reilly, Bangsbo, & Franks, 2000) and about 75-90% of the total body's energy expenditure and consumption come from the aerobic system (Hoff, Wisloff, Engen, Kemi, & Helgerud, 2002). Findings of this study confirmed that all the physical fitness components were trainable in adolescent.

The “Off the Street, On the Ball” Midnight Football Program resulted in significant changes in self-esteem between baseline and post-program ($t=-19.82$, df=91, $p<.05$). More specifically, these findings suggest that following the 4-week programs, participants had significant gains in self-esteem which support the suggestion that the “Off the Street, On the Ball” Midnight Football Program foster positive self-worth (Danish & Petitpas, 1993). Our findings are consistent with a cross-sectional study of 92 children between the ages of 10 and 16 years, Strauss, Rodzilsky, & Burack, (2001) found that self-efficacy was associated with physical activity, and concluded that high level physical activity was important in the development of self-esteem in children (Strauss et al., 2001).

Based upon the findings reported herein, it is consistent with a comprehensive review on the effects of exercise interventions on self-esteem, Fox (2000a) identified two studies did assess these effects, and revealed an increase in self-esteem after a Tai Chi and a walking intervention respectively (Li, Harmer, Chaumeton, Duncan, & Duncan, 2002; McAuley, Blissmer, Katula, Duncan, & Mihalko, 2000). It is supported that adolescents with low self-esteem are significantly more likely to have development of mental illness, suffer poor physical health, risk more criminal convictions, and have fewer economic prospects in adult life when compared with adolescents with high self-esteem (Trzesniewski et al., 2006).

It is interesting to note that a vast majority of participants reported that their participation in “Off the Street, On the Ball” Midnight Football Program had a significant factor in influencing the quality of their overall health, quality of life, quality of their family life, and quality of their social life. The findings of this study support previous research that illustrates the influence of participation in physical activity and sport on perceived quality of life (Blinde & McClung, 1997). Thus, creating opportunities to experience well-being and quality of life are particularly important because of their relationship to overall health and happiness (Carr, 2004).
In the present study we found that for individuals who choose to involve their family members in sport, this study provided some additional support for the notion that this shared experience will influence the quality of family life (Zabriskie et al., 2005). Encouraging family involvement in sport may therefore positively impact the overall meaning that sport has on the individual and the quality of family life (Zabriskie et al., 2005).

The majority of participants either agreed or strongly agreed that participation in this program positively influenced their quality of social life (82.9%) from the baseline (60.3%). It appears that the adolescence participation in sport has influenced individuals become identified with particular groups of peers. Being a member of a particular peer network reflects an individual’s values, while influencing an individual’s attitudes and the norms to which they are exposed (Brown, Dolcini, & Leventhal, 1997).

Youth living in low income socially stigmatized communities face a number of issues such as poverty, the stress of living in "war zones", and the influence of gangs and drug trafficking. Programs that do exist tend to "blame the victim" by attempting to "keep them off the street" or remedy their perceived deficiencies, rather than placing the blame where it belongs, on unresponsive educational, social and political institutions (McLaughlin & Heath, 1993).

The “Off the Street, On the Ball” Midnight Football Program initiated by AFC is consistent to a unique type of physical activity programming called developmentally focused youth sports programs (DYS) which has accumulated over the past decade (Fraser-Thomas et al., 2005; Perkins & Noam, 2007, & Petitpas et al., 2005). DYS programs teach sport and life skills concurrently (Petitpas et al., 2005) using sport as a medium for providing youth with opportunities for psychological, emotional, social, and intellectual growth (Fraser-Thomas et al., 2005; Perkins & Noam, 2007). Sport programs provide the opportunity for life skills instruction because of parallels that exist between life and sport including problem solving, goal setting, teamwork, communication, management of success and failure, and receiving and applying constructive feedback (Goudas & Giannoudis, 2008). In addition, sport and life skills have similar learning modes such as demonstration, modelling, and practice (Orlick & McCaffrey, 1991).

The obtained results confirm the positive influence of the “Off the Street, On the Ball” Midnight Football Program on quality of life and self-esteem, which complies with the findings of other researchers (Bottomley, 1997).

To our knowledge, the current study is the first to demonstrate the beneficial effects of the Football Program on Physical Fitness Components, Self-Esteem and Quality of Life in youth-at-risk in Asia. Overall, the results of the current study lend additional support to the use of Football Program to reduce social risk factors for juvenile delinquency and serious antisocial behaviour, especially in Malaysia.

Limitations

The main limitation in this study was, all questionnaires were self-administered. Self administered questionnaires have the disadvantage of a strong possibility of bias, but are reliable in that information known only to the respondents can be obtained, and such information can be collected at a low cost.
Acknowledgments

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References


Abstract
This paper explores the need to understand athletes’ personalities in ensuring favourable coaching outcomes. Successful coaching cannot be judged based solely on winning or losing but also based on the development of athletes. As such, the process of coaching must be changed to involve the learning of athletes’ personality types. No two athletes are the same but many have similar characteristics. The understanding of personality would enable coaches to cater their approaches to athletes accordingly and achieve positive outcomes without enduring unnecessary stress. Although some researchers have found contradictions and difficulties in personality research based on sports due to the different methodologies used, this paper will embark on two approaches to explore the issue. The approaches are the review of literature on personality types and the presentation of the findings of local studies based on different personality models. Specifically, the review will include behaviour characteristics of athletes, personality traits of athletes from individual and team sports, athletes’ personalities from different types of sports, personality and ability to learn motor skills, personality differences between contact and non-contact sports and personality differences with different body types. The local studies will focus on Sanguine-Choleric-Melancholic and Phlegmatic Model (SCMP) and The Big-Five Model. Based on the findings, strategies will be suggested for coaches to address the difficulties faced in coaching athletes with diverse personality.

Keywords: personality, coaching, Big-Five Model, athletic profile
Introduction

Although the personality of athletes has been used to understand, explain and predict athletes’ behaviours (Geron, Furst & Rotstein, 1986; Kirkcaldy, 1982, Weinberg & Gould, 2011), many coaches have not considered it a strategy for effective coaching. Therefore, they have not attempted to apply it in their training. This may be due to the inconsistencies and contradictory results from the various studies of personality among athletes (Geron, Furst & Rotstein, 1986; Hardman, 1973; Kane, 1982; Morgan, 1978). It should be noted that some consistent characteristics of athletes were found in some studies (Blaser & Schilling, 1976; Johnson & Morgan, 1981; Kroll, Loy, Hosek & Vanek, 1973; Schurr, Ashley & Joy, 1977) but comparison of the findings is difficult to achieve due to differences in methodology as researchers employed different instruments (Bhullar, 1974; Mushier, 1972; Slusher, 1964; Thakur & Thakur, 1978), different combined groups of samples and irrelevant statistical analysis (Kane, 1982; Morgan, 1978). Personality is the sum of characteristics that make a person unique. The study of personality helps us work better with students, athletes and exercisers (Weinberg & Gould, 2011). Weinberg and Gould (2011) also emphasized that getting to know the real person, which is the individual’s psychological core and typical modes of response, produces insight into the individuals’ motivations, actions and behaviours. As such, it is important to understand those aspects of athletes so that coaches can choose the best way to help them and achieve coaching objectives.

A coach should be conscious of the circumstances surrounding the life of an athlete (Yukelson, 2001). Therefore, athletes should not be neglected and an analysis of their personality should be conducted. With the personality profile, a coach should be able to adapt to the variability of personalities among the athletes. The ability to understand and respond to the individual needs of each athlete is a critical element of effective coach-athlete communication (Yukelson, 2001).

Numerous research on college students showed that personality can be used as a coaching strategy because it is stable. In a meta-analysis, Roberts and Del Vecchio (2000) found that personality traits become increasingly stable across the lifespan with test-retest correlations increasing from .30 in children to .54 in young adults from age 18 to 21.9 and to around .70 in adults age 50 to 70. Similarly, in examining personality changes of young adults, aged 18-26 in a longitudinal study of 1000 participants, Roberts, Caspi and Moffitt (2001) confirmed that 93% of the sample had relatively stable traits over an 8-year period.

Personality and Athletes

In a study of personality, Cooper (1969) found that athletes were more competitive, dominant, self-confident, and achievement-oriented. Athletes have also been found to be more psychologically well-adjusted and often report higher levels of self-esteem than non-athletes (Kamal, 1995). Research has also indicated that, compared with non-athletes, athletes often hold slightly more conservative political views (Rehberg & Schafer, 1968), are more authoritarian (LeUnes & Nation, 1982), and demonstrate higher levels of persistence (Lufi & Tenenbaum, 1991).

Kirkcaldy (1984) emphasized that the study of individual differences permits better appreciation of the personality types in athletes. Generally, successful athletes are characterized by a more extraverted, tough minded and less neurotic personality than non-athletes. As such, a coach should be aware of these qualities and capitalize on it to achieve
better results in sports training and competition. Eysenck (1982) stressed that coaches should realize that the individual differences have their origin in physiology systems associated with arousal which in turn, sets up behavioural patterns. Emotionally unstable individuals will be more anxious and face more conflict. Since arousal is related to performance, different personality types will definitely affect the level of performance.

Regarding performance, in an observation of interaction between *Extraversion-Introversion* and *skill acquisition*, Eysenck (1982) found that *introverts* benefit from impersonal coaching methods whereas *extroverts* enjoy variability of instructions and enjoy social interaction with team mates. Extraverts can recall better and learn more rapidly on complex tasks that are current. Conversely, introverts were more superior in memory recall after longer periods of time. This differences in learning method should be recognized by coaches and provide them with new insights when coaching athletes. In addition, Eysenck (1982) found that extroverts produce more errors in performance; they posses lower levels of aspiration than introverts but could work on different tasks at one time. On the other hand, introverts’ performance would be disrupted by a second task. However, introverts perform better in mental imagery.

*Personality and Gender of Athletes*

In a study of female athletes, Malumphy (1968) found individual female athletes to be more anxious, venturesome, tough-minded, and extraverted whilst team athletes were lower in leadership, less venturesome and extraverted. In addition, Rushall (1967) discovered that male swimmers (individual sport) were more individualistic and self-centered. Similarly, Hendry’s (1968) British swimmers’ profiles showed that they tend to be introverts. This is again supported by Warburton and Kane (1966) that many top track and field athletes and swimmers showed predominance to introversion. In a study regarding the personality of college male athletes, Thakur and Thakur (1978) found that the characteristics associated with the athletes were happiness, cordial and affectionate relations, anxiety, achievement, dominance and superior organization capacity. In Malaysia, Yusof Ismail (1989) studied personality and sports motivation among varsity athletes using Universiti Kebangsaan Malaysia students and found that personality was weakly but significantly related to sports motivation (in positive or negative direction) among varsity athletes. There was also a moderate gender relationship between the dependent variables. Male varsity athletes reported significant positive relationship between the four personality subscales of ascendance, responsibility, emotional stability, and sociability with the ports motivation subscales of aggression, conflict (for sociability only), competence of aggression, conflict (for sociability only), competence, and cooperation. Conversely, female varsity athletes reported a significant negative relationship between the personality subscale of emotional stability with sports motivation subscales of conflict, competition, and cooperation.

Numerous findings indicated that female athletes possess a stable personality profile. When compared with non-athlete females, female participants tend to be less angry, confused, depressed, and neurotic (Freedson, Mihevic, Loucks, & Girandola, 1983). Based on her research with female United States Olympians, Balazs (1975) concluded that elite female athletes could be best described as high in the need for achievement and autonomy. In addition, Williams (1980) noted that female athletes often display assertiveness, aggression, and dominance. He concluded that female athletes tend to exhibit traits that are more similar to male athletes and non-athletes than to female non-athletes. When comparing the personality characteristics of male swimmers with female swimmers, Rushall (1967) found that females
were socially bold, noisy and unrestrained in their behavior whereas males appear to be self-centered and individualistic. It has also been found that novice female swimmers were, in general, more introverted than a control group of female athletes that are not primarily engaged in swimming (Meredith & Harris, 1969). Coaches should differentiate between male and female athletes and coach them based on the personality type; coaches should analyze the strength and weaknesses of athletes based on their personality type.

**Personality and Individual and Team Athletes**

Personality plays an important role in athletes’ participation of individual or team sports. Kirkcaldy (1984) found that extraverted individuals, which are characterized by impulsive, sociable, easy-going and optimistic behaviour, would be attracted to team sports because it provides for their need of social interactions. Coaches would then be able to gauge whether the athletes under him/her will be able to adapt to the team well or otherwise. This analysis of personality will enable the coach to examine players and make decisions based on the suitability of a candidate. This would be done by assessing the degree of agreement between the coach’s analysis of the task and the candidates’ abilities. Kirkcaldy (1984) stressed that a coach could use a battery of psychological tests, which act as predictor variables. This analysis would then be used to categorize the athletes and place them according to the degree of compatibility with the specified criterion.

A West German study done by Sack (1975) revealed that middle and long distance runners, when compared to handball and football players, were different along the dimensions, dominance, introversion-extraversion (and body-build). Peterson (1967) found that individual athletes were significantly more dominant, adventurous, emotional, radical and less dependent than team participants. Kane (1970) showed a complex relationship between the second order personality variable “Extraversion” and performance of “track athletes”: sprinters and “throwers”. They were frequently more extraverted than middle-distance runners. From his research, he claims that as the distance increases, there is a trend towards introversion. Johnson (1972) had demonstrated differences between female athletes participating in sports such as basketball, bowling, field hockey and golf, as did Kroll and Crenhaw (1968) between footballers, wrestlers and gymnasts.

Over the years, questions have been raised about the personality traits of athletes participating in individual sports and team sports. The personality traits of women in individual sports and in team sports were studied by Peterson, Weber and Trousdale (1969). They found that women athletes competing in individual sports rated higher on dominance, adventurousness, sensitivity, introversion, radicalism, and self-sufficiency and lower in sophistication, when compared to women athletes competing in team sports.

In other studies, many researchers (Foster, 1972; Meredith & Harris, 1969; Peterson et al., 1969; Rushall, 1967) reported that women athletes who participated in individual sports were more dominant, adventurous, sensitive, radical, imaginative, self-sufficient, and more forthright than women competing in team sports.

Many researchers (Eysenck, 1982; Hendry & Douglas, 1975; Kirkcaldy, 1982) studied personality and sex differences in team sports and found that team athletes were extraverted, emotionally more stable (females being less stable than males athletes), self-sufficient, tough-minded, dominant, aggressive, and hostile.
Personality and Contact and Non-Contact Athletes

It has been found that extraversion was higher for athletes in ‘direct’ sports where aggression is permitted via contact than in ‘parallel’ sports where it is not (Newcombe & Boyle, 1995). This is similar to the high sensation-seekers who engage in riskier sports to satisfy their need for new experiences (Young, 1990). This implies that there are pre-existing differences which draw participants into different sports (the gravitational hypothesis).

Athletes in contact sports are likely to differ in a number of ways from those in non-contact sports, particularly in height and weight. If personality is related to body build, physical differences may account for personality differences between athletes in various sports. In fact, while he recognized that some of the relationships may be based on stereotypes, Sheldon found that more muscular types (mesomorphs) are more outgoing than less muscular types (ectomorphs) (Hall & Lindzey, 1957).

Personality and Sport Injury

Some studies have found that psychology has a great influence on the occurrence and recovery from injury and illness (Clark & Robertson, 2005; Raynor & Levine, 2009). One main component of sport psychology that has been found to influence the occurrence of injury is life stress. Contributing stressors include social support, coping skills, and personality (Albu, 2009). Personality is the basis of these three stressors. Personality determines how a person will normally think, feel, and act. When put in a particular situation, a person’s personality will influence how they respond to the circumstance (Lluis-Font, 2005).

Using Big Five Model of Personality Analysis as Coaching Strategy

The Big Five Model conceptualizes personality through five constructs: Extraversion; Conscientiousness; Agreeableness; Neuroticism or Emotional Stability; and Openness to Experience (Costa & McCrae, 1992; Goldberg, 1981). Table 1 below examines the characteristics for the five constructs to provide a better understanding of the model.

<table>
<thead>
<tr>
<th>Extraversion</th>
<th>Conscientiousness</th>
<th>Agreeableness</th>
<th>Emotional Stability</th>
<th>Openness to Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talkative</td>
<td>Team player</td>
<td>Communal orientation</td>
<td>Negative emotionality</td>
<td>Open-minded</td>
</tr>
<tr>
<td>Outgoing</td>
<td>Good self-control</td>
<td>Selflessness</td>
<td>Calm</td>
<td>Love of adventure</td>
</tr>
<tr>
<td>Energetic</td>
<td>Focused on tasks &amp; goals</td>
<td>Honest/ Trusting</td>
<td>Poised</td>
<td>Love arts</td>
</tr>
<tr>
<td>Dominant</td>
<td>Think before action</td>
<td>Moral</td>
<td>Self-confident</td>
<td>Imaginative</td>
</tr>
<tr>
<td>Optimistic</td>
<td>Follow norms &amp; rules</td>
<td>Tender-minded</td>
<td>Secure with decisions</td>
<td>Curious</td>
</tr>
<tr>
<td>Expressive</td>
<td>Plan, organize &amp; prioritize</td>
<td>Modest</td>
<td>Anxious, vulnerable</td>
<td>Interested in novel ideas</td>
</tr>
<tr>
<td>Seeks attention</td>
<td></td>
<td>Cooperative</td>
<td>Tense</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tolerant</td>
<td>Moody</td>
<td></td>
</tr>
</tbody>
</table>
Research conducted in Malaysia

Purpose

The main purpose of this study was to investigate the Big Five Personality Factor (Extraverts, Agreeableness, Openness to Change, Conscientiousness, and Emotional Stability) among sport science students of a public university in Malaysia.

Demographic Data of the Respondents

One hundred students, comprised of 50 athletes and 50 non-athletes (54.0% male and 46.0% female), were studied. 8.0% of them were less than 20 years old, 72.0% were 21-23 years old, 16.0% from 24-26 year group and 4.0% were 27 years old and above. In terms of sports experience, 94% of them have participated in sports. 67% had 3-4 years experience, 18% 1-2 years experience, 9% had less than a year experience while 6% had no sports participation. Among those involved in sports, 21% are involved at school level, 22% at district level, 41% state level and 10% achieved national level of involvement. In terms of the type of sports involved, 8% of the students were involved in hockey, 4% in rugby, 3% each in archery, badminton, bowling and table tennis, 5% in handball, 14% in netball, 15% in football, 9% in volleyball, 5% in sepak takraw, and 22% in other sports.

Findings

The statistics showed that 31 (62%) of the respondents were extravert, 29 (58%) had agreeable personality, 32 (58%) were open to change, 45 (90%) were conscientious and 40 (80%) were emotionally stable. Results of ANOVA showed no significant differences among athletes from different levels of involvement in the five personality sub-scales. No significant results were also obtained among athletes from different sports in the five sub-scales. Comparison of male and female athletes also yielded no significant results in all the five sub-scales.

Strategy for Coaches

Coaches should attempt to develop training based on the findings. A high percentage of ‘conscientiousness’ means that athletes are competent, organized, achieving and proactive. John and Srivastava (1999) emphasized that highly conscientious individual think before they act, follow norms and rules, and plan, organize, and prioritize tasks. This is supported by Van Vianen and De Drwu (2001) that athletes with these characteristics are responsible, organized, self-disciplined, achievement-oriented, hard working, and exhibit maximum effort and perseverance toward individual and team goals. This will definitely help coaches to push the athletes into achieving higher goals. The athletes were also stable emotionally which means
that they are confident, resilient, contented and relaxed. The quality of confident and resilient should be exploited by the coaches to gain more during training. However, the contented and relaxed behaviour among athletes should be tackled accordingly to not to jeopardize the sports training programme.

Majority of athletes were extraverts which mean that they are friendly, outgoing, assertive and energetic. These athletes value social interaction so coaches should give them the opportunity for increased social interaction such as holding leadership posts in the sport team. This is supported by Shiner (2006) which noted that extraverts like to be dominant. This will undoubtedly help promote good rapport among team members. Their energetic nature also means that they are able to work harder. This characteristic is recognized by Caspi, Roberts and Shiner (2005) who state that they like to be the center of attraction.

On openness to change, these athletes are imaginative, innovative, and adaptable but prefer to break the rule. Coaches must recognize their innovative and imaginative nature and provide room for them to express that through discussion of training programmes, coaches need to ensure rules are kept intact so that the end results are favourable. The ‘agreeableness’ nature means that the individual is trusting, straightforward, considerable and unassuming. Coaches should be open to them but must tackle the unassuming nature; encourage the athletes so that they are willing to come forward and involve themselves in activities. On the other hand, Shiner (2006) stated that individuals with low levels of agreeableness could be aggressive, rude, spiteful, stubborn, cynical, and manipulative.

Using SCMP (Sanguine-Choleric-Melancholic-Phlegmatic) Model As Coaching Strategy

Table 2 showed the characteristics of the four constructs of the SCMP Model.

<table>
<thead>
<tr>
<th>Sanguine (Extrovert/Stable)</th>
<th>Choleric (Extrovert/Unstable)</th>
<th>Melancholic (Introvert/Unstable)</th>
<th>Phlegmatic (Introvert/Stable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>Optimistic</td>
<td>Sensitive</td>
<td>Calm/Stable</td>
</tr>
<tr>
<td>Cheerful</td>
<td>Active</td>
<td>Artistic/Creative</td>
<td>Patient</td>
</tr>
<tr>
<td>Friendly/Sociable</td>
<td>Confident</td>
<td>Perfectionist</td>
<td>Controlled</td>
</tr>
<tr>
<td>Talkative</td>
<td>Strong-willed</td>
<td>Analytical</td>
<td>Good listener</td>
</tr>
<tr>
<td>Changeable</td>
<td>Assertive</td>
<td>Serious and purposeful</td>
<td>Dependable/Reliable</td>
</tr>
<tr>
<td>Lively</td>
<td>Impulsive</td>
<td>Selfless</td>
<td>Efficient</td>
</tr>
<tr>
<td>Restless</td>
<td>Hot temper/Touchy</td>
<td>Idealistic</td>
<td>Thoughtful</td>
</tr>
<tr>
<td>Energetic/Lively</td>
<td>Aggressive</td>
<td>Reserved</td>
<td>Easy-going</td>
</tr>
<tr>
<td>Responsive</td>
<td>Goal oriented</td>
<td>Moody</td>
<td>Passive</td>
</tr>
<tr>
<td>Self-centered</td>
<td>Well organized</td>
<td>Rigid/lack flexibility</td>
<td>Stubborn</td>
</tr>
<tr>
<td>Carefree</td>
<td>Faithful</td>
<td>Insecure</td>
<td>Lazy</td>
</tr>
<tr>
<td>Curious</td>
<td>Brave</td>
<td>Anxious</td>
<td></td>
</tr>
<tr>
<td>Undependable</td>
<td>Independent</td>
<td>Pessimistic</td>
<td></td>
</tr>
</tbody>
</table>
Inconsiderate
Aloof/Reserved

Research conducted in Malaysia

Purpose

The purpose of this study was to investigate the personality of athletes using SCMP model.

Demographic Data of the Respondents

Two hundred and fifty-nine athletes which comprised of 193 male (74.5%) and 66 female athletes (25.5%) were studied. About 7% of them were less than 20 years old, 62.2% were 20-24 years old, 18.9% from 25-29 year group and 11.6% were 30 years old and above. In terms of sports experience, 63.3% of the athletes were involved in hockey (5.8%), rugby (9.3%), archery (0.8%), bowling (1.2%), hand ball (1.5%), net ball (5.4%), football (18.1%), badminton (5%), volleyball (5.4%), ping pong (1.9%), sepak takraw (8.9%). In terms of achievements, the athletes were successful at various level; national (38.2%), state (30.1%), district (21.2%) and school (10.4%). 40.5% became champions, 31.7% achieved second placing, 12.4% third placing and 15.4% others. In terms of responsibilities in their respective teams, 56% were team captain, 2.7% assistant team captain, 1.5% committee member and 35% played the role of team members/players.

Findings

Majority of the athletes (80.7%) are Melancholic followed by Sanguine (8.1%), Phlegmatic (6.6%) and Choleric (4.6%). Results of ANOVA showed no significant differences among athletes from different levels of involvement in the five personality sub-scales. No significant results were also obtained among athletes from different sports in the five sub-scales. Comparison of male and female athletes also yielded no significant results in all the five sub-scales.

Strategy for Coaches

For Sanguine type athletes, coaches should understand that they are fun-loving, happy go lucky, unorganized, needs attention but needs to be in charge. This mixed personality should be tackled with caution; coaches should ensure training includes fun, give them as much attention as possible. On the need to be in charge, coaches should give some responsibility to them but monitor them closely because they are unorganized. Choleric personalities are born leaders, production oriented, excels in crisis, decisive aggressive and bossy. Coaches could assign athletes with this personality to be team captains, allow them to make decisions but ensure that their aggressiveness is controlled. On the other hand, melancholic individuals are perfectionist, like order, needs details, accept order with ease, and achieve better with repetition. Coaches should provide details of training to this type of athletes and at the same time provide adequate repetition during training. Phlegmatic individuals are introverts, dislike conflicts, externally motivated, no urgency to work and needs well-planned programmes to be successful. Coaches need to provide extra motivation to this group of athletes, monitor their
progress and push them to achieve training goals. Coaches should avoid giving them big responsibilities but should encourage them to help out with a lesser responsibility.

**Conclusion**

Despite the diversity in the instruments used and conflicting results obtained, personality analysis should be explored as they can be a useful tool in assisting coaches to achieve better outcomes in their training or competition. The analysis would provide a more harmonious coach-athlete environment and definitely increase the fun in coaching.

**References**


GROWTH PATTERN AND PEAK GROWTH OF STUDENTS AGED 9 TO 16 YEARS

Mohd Rozilee Wazir, Saidon Amri, Kok Lian Yee, Aris Fazil Hj Ujang & Ani Mazlina Dewi Mohamed
Jabatan Pengajian Sukan, Fakulti Pengajian Pendidikan
Universiti Putra Malaysia

Abstract
This study aims to identify growth pattern and growth maturation of boys and girls aged between 9 to 16 years. This study is using a cross-sectional design which involved a different subject age groups and each subject represented only once as sample. The growth indicator is referred to standing height of the sample measured using stadiometer. A total of 800 students (400 boys and 400 girls) aged between 9 to 16 years participated in this study using fishbowl technique. Mean and standard deviation were used to identify the growth pattern and growth maturation of the boys and girls. Descriptive analysis showed that mean standing height of the boys and girls is increased accordingly to their age. However, mean height of the male students increased 9.7 cm rapidly at the age of 13 and 14 years. Meanwhile, mean height of the girls showed a rapid increase 7.6 cm between the age of 10 and 11 year. It can be concluded that the pattern growth of boys and girls is in line with their age. However, the peak time of growth for boys and girls are different, where the boys experienced growth peak at the age of 13 to 14 years, while the girls at the age of 10 to 11 years. In addition, boys were higher than girls, but at the age of 10 to 13 years girls were founded to be higher than boys. This is happens due to the growth process is at the peak stage at that age.

Keywords: Growth, Growth Maturation, Growth Pattern
Abstrak

Kata kunci: Tumbesaran, Tumbesaran Puncak, Corak Tumbesaran
Pendahuluan


Ketika ini di Malaysia, tumbesaran kanak-kanak dan remaja adalah merujuk kepada carta tumbesaran yang dikeluarkan oleh Centre for Disease Control (CDC) di Amerika Syarikat yang merekodkan berat, tinggi dan ukur lilit kepala berbanding umur, dan berat berbanding tinggi. Perlu diperjelaskan bahawa tumbesaran puncak berlaku pada umur yang berbeza bagi kaum yang berbeza ataupun warna kulit yang berbeza. Lelaki India dan lelaki berkulit putih mengalami tumbesaran puncak lebih awal berbanding dengan lelaki berkulit hitam (Pienaar & Viljoen, 2010). Perbezaan tersebut mungkin dipengaruhi oleh faktor-faktor seperti persekitaran, budaya, pemakanan dan genetik. Oleh yang demikian, tumbesaran puncak dan ketinggian pelajar-pelajar di Malaysia mungkin mempunyai perbezaan dengan dapatan negara-negara lain.
Metodologi

Populasi Dan Persampelan Kajian

Populasi kajian terdiri daripada pelajar lelaki dan pelajar perempuan yang berumur antara 9 (Darjah 3) hingga 16 tahun (Tingkatan 4) di Malaysia. Bagi tujuan kajian ini, lapan kumpulan umur iaitu 9 tahun, 10 tahun, 11 tahun, 12 tahun, 13 tahun, 14 tahun, 15 tahun dan 16 tahun bagi lelaki dan perempuan telah digunakan sebagai sampel kajian.

Bagi tujuan pemilihan sampel, negeri-negeri di Malaysia telah dikelompokkan kepada 5 Zon yang terdiri daripada beberapa buah negeri. Zon-zon tersebut adalah Zon Utara (Perlis, Kedah, Pulau Pinang, Perak), Zon Tengah (Selangor, Wilayah Persekutuan Kuala Lumpur, Wilayah Persekutuan Putrajaya), Zon Selatan (Negeri Sembilan, Melaka, Johor), Zon Timur (Kelantan, Terengganu, Pahang) dan Zon Malaysia Timur (Sabah, Sarawak, Wilayah Persekutuan Labuan). Kelima-lima nama zon telah ditulis di atas kertas dan kertas tersebut dimasukkan ke dalam balang untuk di cabut. Cara yang sama juga telah dilakukan untuk menentukan zon, sekolah dan sampel.


Jumlah keseluruhan sampel yang digunakan untuk kajian ini adalah seramai 800 orang terdiri dari 400 lelaki dan 400 perempuan. Terdapat lapan kumpulan umur dalam kajian ini. Setiap kumpulan umur mempunyai 100 orang sampel iaitu 50 lelaki dan 50 perempuan. Jumlah sampel adalah mencukupi sebagaimana yang disarankan oleh Krejcie dan Morgan (1970) yang menyatakan bahawa populasi yang melebihi 100 000 orang, sampel minima yang perlu adalah sebanyak 384 orang.

Instrumen

Borang soal selidik diserahkan kepada pelajar untuk dilengkapkan bagi mengetahui maklumat peribadi pelajar. Alat pengukur tinggi berdiri (stadiometer) digunakan untuk mengukur tinggi berdiri pelajar.

Analisis

Jadual 1 menunjukkan analisis deskriptif bagi tumbesaran (tinggi) dan prestasi fizikal subjek kajian mengikut jantina dan kumpulan umur. Secara keseluruhan, tumbesaran (tinggi) bagi pelajar lelaki dan perempuan menunjukkan peningkatan yang seiring dengan peningkatan umur mereka.
Jadual 1: Min Tinggi Pelajar Lelaki Dan Pelajar Perempuan

<table>
<thead>
<tr>
<th>Umur (Tahun)</th>
<th>LELAKI (n=400)</th>
<th>PEREMPUAN (N=400)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min (cm)</td>
<td>Siisihan Piawai</td>
</tr>
<tr>
<td>9</td>
<td>129.20</td>
<td>6.44</td>
</tr>
<tr>
<td>10</td>
<td>138.30</td>
<td>5.99</td>
</tr>
<tr>
<td>11</td>
<td>141.30</td>
<td>6.09</td>
</tr>
<tr>
<td>12</td>
<td>147.80</td>
<td>8.23</td>
</tr>
<tr>
<td>13</td>
<td>149.90</td>
<td>7.54</td>
</tr>
<tr>
<td>14</td>
<td>159.60</td>
<td>8.25</td>
</tr>
<tr>
<td>15</td>
<td>163.70</td>
<td>7.90</td>
</tr>
<tr>
<td>16</td>
<td>165.70</td>
<td>7.17</td>
</tr>
</tbody>
</table>

Manakala, Rajah 1 menunjukkan graf min tinggi (cm) bagi setiap kumpulan umur (tahun). Analisis menunjukkan peningkatan min tinggi adalah berkaladan terus dengan peningkatan umur. Selain itu, min tinggi pelajar lelaki mengalami peningkatan yang pesat ketika berumur antara 13 tahun dan 14 tahun iaitu meningkat sebanyak 9.7 cm. Manakala, min tinggi pelajar perempuan menunjukkan peningkatan pesat antara umur 10 dan 11 tahun dengan peningkatan sebanyak 7.6 cm.

Perbincangan


Walaupun pelajar perempuan lebih tinggi ketika berumur antara 10 hingga 13 tahun, namun pelajar lelaki akan lebih tinggi daripada pelajar perempuan bermula antara umur 13 tahun dan seterusnya. Hal ini disebabkan tumbesaran puncak pelajar lelaki berlaku lewat (13 tahun) berbanding dengan pelajar perempuan (10 tahun). Oleh yang demikian, ketinggian pelajar lelaki akan melebihi pelajar perempuan yang mengalami tumbesaran puncak yang lebih awal berbanding pelajar lelaki.

Secara keseluruhannya, corak tumbesaran pelajar lelaki dan pelajar perempuan adalah seiring dengan peningkatan umur mereka. Namun begitu, masa berlakunya tumbesaran puncak bagi pelajar lelaki dan perempuan adalah berbeza di mana pelajar lelaki mengalami tumbesaran puncak ketika berumur 13 hingga 14 tahun, manakala pelajar perempuan mengalami tumbesaran puncak ketika berumur 10 tahun hingga 11 tahun. Selain itu, pelajar lelaki didapati lebih tinggi daripada pelajar perempuan, namun ketika berumur 10 hingga 13 tahun.
pelajar perempuan didapati lebih tinggi daripada pelajar lelaki. Perkara ini disebabkan oleh proses tumbesaran puncak yang berlaku semasa itu.

**Kesimpulan**

Kajian ini mendapati corak tumbesaran pelajar lelaki dan perempuan adalah seiring dengan peningkatan umur mereka. Selain itu, tumbesaran puncak pelajar lelaki dan pelajar perempuan berlaku pada umur yang berbeza. Tumbesaran puncak pelajar lelaki berlaku antara umur 13 hingga 14 tahun. Manakala, tumbesaran puncak pelajar perempuan berlaku antara 10 hingga 11 tahun.

**Rujukan**


CROSS-CULTURAL VALIDATION OF THE PERFORMANCE FAILURE APPRAISAL INVENTORY-SHORT FORM: A MALAYSIAN ADAPTATION

Santhosh Ayathupady Mohanan
Sports Center, University of Malaya
Kuala Lumpur, Malaysia

Abstract

The purpose of the present study was to examine the cross-cultural validity of the short version of the Performance Failure Appraisal Inventory (PFAI; Conroy, 2001; Conroy, Willow, & Metzler, 2002) by analyzing reliability and validity of a Malay language (official language of Malaysia) translation. Three studies were performed to translate the inventory and examine its factorial invariance and criterion validity. A total of 509 Malaysian athletes participating in various sports participated. In study 1, the hypothesized single factor model was examined performing a confirmatory factor analysis using Structural Equation Modelling (SEM). The criterion validity was examined by comparing fear of failure scores with the scores of achievement goals. Cronbach’s alpha values indicating internal consistency reliability was high (α = .93). Altogether, it was concluded that the Malay adaptation of the Performance Failure Appraisal Inventory-Short form (PFAI-SM) yielded reliability and validity that evidenced support for the cross-cultural usefulness of the scale.
Cross-Cultural Validation of the Performance Failure Appraisal Inventory-Short Form: A Malaysian Adaptation

Fear of failure is an intuitively familiar personality construct to performers across achievement domains (Conroy, 2003). Early achievement motivation researchers postulated fear of failure as a motive (motive to avoid failure) while describing the dispositional tendencies to behave in ways that reduce the possibility of experiencing failure (McClelland, Atkinson, Clark & Lowell, 1953). Maintaining this approach, contemporary researchers conceptualized fear of failure as a motive to avoid failure in evaluative achievement contexts associated with anticipatory shame (e.g., McGregor & Elliot, 2005). As a motive focusing on avoidance behaviour and negative emotions like shame, fear of failure has been examined in connection with negative psychological aspects. In school for example, students with high fear of failure are likely to adopt avoidance achievement goals (Elliot & Church, 1997) which mediate other negative effects (e.g., decreased subjective well-being, decreased intrinsic motivation, low grades). In sport contexts, fear of failure has been associated with power-enhancing drug abuse (Anshel, 1991), source of stress (Gould, Horn & Spreeman, 1983), high levels of stress and worry (Conroy, Willow, & Metzler, 2002), antisocial behaviour (Sagar, Boardley, Kavussanu, 2010), and perfectionism (Sagar & Stoeber, 2009).

Recently, Conroy and colleagues (Conroy, 2001, Conroy, et al., 2002; Conroy, 2004) proposed fear of failure as a multidimensional and hierarchical construct. This approach is based on Cognitive-Motivational-Relational Theory of Emotions (Lazarus, 1991). According to this cognitive-motivational-relational approach (Conroy 2001, 2003, 2004, Conroy & Elliot, 2004), fear of failure is a dispositional tendency to experience apprehension and anxiety in evaluative situations because individuals have learned that failure is associated with aversive consequences. Fear of failure occurs when beliefs or cognitive schemas about these aversive consequences of failing are stimulated by situations in which failure is possible. According to Conroy et al.’s model, fear of failure can be represented in a hierarchical structure with five lower-order factors representing beliefs in specific aversive consequences of failing, and a single higher-order factor representing a general fear of failure (Conroy, 2001; Conroy et al., 2002; Conroy, 2004). The five lower-order fears of failure include (a) fear of experiencing shame and embarrassment; (b) fear of devaluing one’s self-estimate; (c) fear of having an uncertain future; (d) fear of important others losing interest; and (e) fear of upsetting important others.

The original Performance Failure Inventory (PFAI; Conroy 2001; Conroy et al., 2002; Conroy, Metzler, & Hoffer, 2003) measures threat appraisals associated with fear of failure. It measures the strength of individual’s beliefs that failure is connected with the aversive consequences as proposed by Conroy et al.’s (2002) model. The PFAI is the first fear of failure measure developed from meta-theory of emotions. Therefore, it examines fear of failure as a function of person-environment interaction as opposed to a trait or state like construct; and proposes the individual nature of perceptions of failure, instead of assuming fear of failure to be the same for all performers (Conroy et al., 2002).

Conroy (2001) developed the original PFAI that comprised 89 items to measure ten appraisals related to fear of failure from a content analysis of in-depth interviews of performers’ perceptions of the consequences of failing and not succeeding (Conroy, Poczwardowski, & Henschen, 2001). Due to some conceptual and practical issues, Conroy
and colleagues (2002) developed the revised version that comprised 25 items to measure five dimensions (as mentioned earlier) of threat appraisals related to fear of failure. Conroy and colleagues (2002) reported several statistical properties of the revised PFAI that suggested the revised PFAI as the best available measure of fear of failure. Model comparisons among different hypothesised models of the factor structure of the PFAI yielded reliable results. For example, confirmatory factor analysis showed satisfactory goodness of fit indices for the five dimensions when tested as a five correlated factor model as a higher-order factor model when the five dimensions were subsumed.

As part of developing the 25-item PFAI, Conroy et al. (2002) developed a 5-item short-form measure of the higher-order fear of failure by identifying items with the largest squared multiple correlations on each factor. A series of progressively more restrictive invariance analyses demonstrated that the 5-item short form satisfied the criteria for tight cross-validation, because parameter estimated in the calibration sample (i.e., item loadings, factor covariance and uniqueness) did not significantly reduce the model’s ability to reproduce the covariance matrix for the cross-validation sample (for details see, Conroy et al., 2002). Coefficient alpha for the five-item short form was .72 (Conroy et al., 2002). This short form exhibited a similar pattern of correlations with external measures compared to the long form. General fear of failure measured by the 5-item measure was associated with high levels of cognitive disruption, somatic anxiety, worry and overall sport anxiety and low levels of optimism (Conroy et al., 2002). Their study suggested the short form as an empirically validated measure of general fear of failure with 5 items representing five important domains of fear of failure. Moreover, the short version is a good alternative for researchers who are interested in the general fear of failure score; and it requires less time to administer which is of great importance in sport settings.

The PFAI and its five-item short version measure were developed in the United States of America based on American sport-specific populations. Different versions of PFAI have been demonstrated high level psychometric properties including temporal stability and factorial validity in many other researches primarily on American populations (Conroy et al., 2002, 2003; Conroy & Elliot, 2004). Very few studies reported PFAI’s psychometric properties outside USA (e.g., Sideridis and Kafetsion, 2008). Considering these circumstances, Sagar & Jowett (2010) conducted a study to generalize the psychometric properties of the PFAI to British sport participants. As they state, the reasons for such a validation is the cultural difference between the USA and the UK, in spite of the similarities in terms of individualistic orientation, language and socio-economic profiles. According to Sagar and Jowett (2010), the UK and the US differ in educational systems, family values, and work attitudes, all of which are aspects that can influence how one appraises the threat of failure in achievement or evaluative situations. Therefore, research is needed to establish the degree to which threat appraisals in sport settings as measured by the PFAI are capturing the same constructs and the same levels in the UK with a British sample of sport participants. Such notions related to the testing of cross-cultural validity of the PFAI logically support a study to establish the validity of the PFAI with a sample of sport participants from a culturally, linguistically and socio-economically different country like Malaysia. A culture with collectivistic orientation implies that individuals belong to collectives as opposed to be independent and are motivated by the goals of the collectives as opposed to by their own preferences and needs (Triandis, 1995). Malaysia, a south-east Asian country holds a collectivistic orientation as opposed to the US which carries strong individualistic orientation. Western individualistic and Eastern collective cultures appear to differently promote approach and avoidance motivational processes (Elliot, Chirkov, Kim, & Sheldon, 2001). In the socialisation process in the East, the importance of not making mistakes for establishing a
positive self is emphasized whereas in the West, a positive self is developed by doing one’s best or by striving to win (Heine, Lehman, Markus, & Kitayama, 1999). Therefore, fear of failure may be thought to have contextual differences. Moreover, language socio-economic profiles of these countries are different. Bahasa Melayu (Malay) is the national language of Malaysia whereas the US is an English speaking country where the original PFAI has been developed in English. In short, these differences presuppose a need for the cross cultural validation of the Malay version of the PFAI to be employed in research practice with Malaysian athletes. On shortening the original PFAI to a 25-item measure, Conroy et al. (2002) were concerned with the length of the measure and they mentioned that the practitioners and researchers alike might be more inclined to use this measure if a shorter version could be developed without sacrificing the psychometric quality of scores. This is the reason why they alternatively provided a 5-item short version along with the 25-item measure. This study aims to develop the Malay adaptation of the 5-item short version of the PFAI upholding the advantages of a short measure with sound psychometric properties.

In general, the present study addresses some practical issues pertaining to fear of failure research. Firstly, it tries to promote fear of failure research in non-English speaking athletic populations. Availability and applicability of valid and reliable measures is a prerequisite in any area of research. Presently, there is no instrument in Malay language measuring fear of failure based on a meta-theory of emotions which examines fear of failure as a function of person-environment interaction and appraisals of failure. Malay language is a member of the Western branch of the Austronesian language family, spoken as a native language by more than 33,000,000 persons distributed over the Malay Peninsula, Sumatra, Borneo, and the numerous smaller island of the areas and widely used in Indonesia as a second language (Malay Language; Encyclopaedia Britannica, 2010). The Malay language is the official language of Malaysia and Brunei; one of the official languages of Singapore; and spoken in Indonesia as a normative form called Bahasa Indonesia. We hope this study will meet the need of a Malay version of the short-form of the PFAI.

Three studies were conducted on three different samples. Study one encompassed the questionnaire translation and pilot testing. In the second study, confirmatory factor analysis was performed with structural equation modelling for testing the hypothesised single factor structure. In addition, internal consistency reliability of the measure was estimated. In the third study, the external validity of the new Malay version of the PFAI 5-item measure was examined.

**Study1: Questionnaire translation and pilot testing**

Following the back-translation technique (Brislin, 1986), this validation stage of the instrument proposed a preliminary Malay version of the 5-item short form of the PFAI (Conroy et al., 2003). To this end, the first translator who was a Malaysian sport scientist translated the original English anchor version into Bahasa Melayu (Malay language; the target language). This version was then back-translated into English (the source language) by another translator. Both English versions were examined for global similarity from a semantic point of view. The Malay version proved significant equivalence with the original version. Responses to the items were made on a scale ranging from *do not believe at all* (-2) to *believe 100% of the time* (+2).

The translated questionnaire was scrutinised with a pilot testing. For pilot testing, the questionnaire was administered to 10 Malaysian athletes (5 male and 5 female; $M_{age} = 21.13$,
followed by individual interviews for 10 minutes about various aspects of the instrument. The interview questions were adapted from a French translation study on athletes’ self-esteem (Bardel, Fontayne, & Colombel, 2008). The interview included the following questions: “Does the question seem clear to you?”, “How do you interpret this item?”, “What does it mean for you?” and “What do you think is assessed by the questionnaire?”. Issues related to vagueness in terms of sentence structure, use of words and semantics were ruled out based on the interview. The new inventory will be called the Performance Failure Appraisal Inventory-Short form, Malay (PFAI-SM). For a complete list of translated items and its corresponding original items, see Table1.

Study 2: Confirmatory Factor analysis and internal consistency

The objective of study 2 was to examine the factorial structure and internal consistency reliability of the PFAI-SM. First, the factor structure of the PFAI-SM was tested using confirmatory factor analysis (CFA) employing structural equation modelling. Second, reliability was estimated by using the traditional coefficient alpha (Cronbach, 1984).

Method

Participants

To test the factorial structure of the PFAI-SM, a sample of 351 athletes from various parts of Malaysia were recruited (184 men and 167 women) ranged in age from 18 to 39 years (M_age = 23.82, SD = 5.10). The sample comprised of athletes participating in various disciplines (e.g., athletics, archery, badminton, volleyball, rugby, tennis). All participants practiced competitive sport for several years at regional or nation level. On an average, they participated in their sport for 6.21 years (SD = 4.22).

Procedure and measures

Some of the participants were contacted with the help of respective sport associations or their coaches while some of them were contacted directly. Participation in the study was voluntary and all participants provided consent to participate. The participants were assured the confidentiality of the information provided by them. They were also informed that the information would be used only for research purpose.

The PFAI-SM consists of 5 items scaled on a Likert 5-point scale. The PFAI-SM provided scores for general fear of failure. Sample items were: “Bila saya kalah, saya risau kemungkinan saya kurang berbakat” and “Bila saya kalah, rancangan masa depan saya akan terganggu”. Participants were asked to focus on their thoughts and feelings about their sport when responding to the questions. Responses were made on a scale ranging from do not believe at all (-2) to believe 100% of the time (+2). See appendix for a complete version of the PFAI-SM.

Data analysis

To conduct confirmatory factor analysis with Structural Equation Modeling, AMOS 18 software was used. The model fit comparisons were performed to estimate the best fit of the hypothesized single factor model. Internal consistency indices by Cronbach’s alpha (Cronbach, 1984) of the PFAI-SM were estimated using PASW 18 (formerly called SPSS).
Results and Discussion

Two models were compared for goodness of fit using AMOS 18 software. Maximum likelihood estimates were derived from covariance matrices, and pair-wise deletion was performed for missing data. There were no missing values. All of the items had skewness and kurtosis values between +1 and -1 and the distribution of the data showed acceptable multivariate normality (Mardia’s coefficient was 1.09 and the critical ratio was 1.22). Since the chi-square test being sensitive to sample size, other fit indices were considered when making comparisons to the baseline model. The Root Mean Square Error of Approximation (RMSEA) was considered as a measure of absolute fit and the Comparative Fit Index (CFI) and Tucker_Lewis Index (TLI) as indices of incremental fit. A good fitting model to be indicated by values close to or greater than .95 for the CFI and TLI, and values of or less than .06 for RMSEA (Hu & Bentler, 1995). However, Browne & Cudeck, 1989 have used a different criterion (mediocre fit, .08 -.1) as the RMSEA is sensitive to the number of parameters.

![Confirmatory factor analysis of the PFAI-SM items (standardized coefficients)](image)

The fit indices from the CFA indicated a very close fit of the proposed model to the data, \( \chi^2 \) (df = 5, N = 351) = 17.158, \( p = .004; \) CFI = .991, TLI = .982, RMSEA = .083. Therefore, the default model was examined for further modifications suggested by the software. These modifications were tested in model A. Thus, a covariance was detected between the error variances of the first and second items. The results indicated that model A fits the data pretty well improving all the indices, \( \chi^2 \) (df = 5, N = 351) = 7.323, \( p = .120; \) CFI = .998, TLI = .994, RMSEA = .049. There was a notable reduction in chi-square ( \( \chi^2 = 9.835 \)) and RMSEA (\( = .034 \)). An examination of Item 1, “When I am failing, I am afraid that I might not have enough talent” and item 2, “When I am failing, it upsets my “plan” for the future,” reveals that these items share common aspects. Appraisals of failure related to
lack of talent and control could be assumed to influence factors pertaining to future planning. The factor loadings and error variances of the items are presented in Fig.1. All of the items showed relatively strong loadings that ranged from .81 to .87 (.85 on average), and satisfactory error variance. Cronbach’s alpha coefficient ($\alpha$) for the scale was = .93.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Items</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bila saya kalah, saya risau kemungkinan saya kurang berbakat.</td>
<td>-.28</td>
<td>1.13</td>
</tr>
<tr>
<td></td>
<td>(When I am failing, I am afraid that I might not have enough talent)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Bila saya kalah, rancangan masa depan saya akan terganggu.</td>
<td>-.38</td>
<td>1.25</td>
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<tr>
<td></td>
<td>(When I am failing, it upsets my “plan” for the future.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Bila saya tidak berjaya, orang akan kurang berminat terhadap saya</td>
<td>-.22</td>
<td>1.21</td>
</tr>
<tr>
<td></td>
<td>(When I am not succeeding, people are less interested in me)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Bila saya kalah, pihak lain akan kecewa.</td>
<td>-.09</td>
<td>1.19</td>
</tr>
<tr>
<td></td>
<td>(When I am failing, important others (people) are disappointed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Bila saya kalah, saya risau pendapat pihak lain terhadap saya.</td>
<td>-.15</td>
<td>1.17</td>
</tr>
<tr>
<td></td>
<td>(When I am failing, I worry about what others think about me)</td>
<td></td>
<td></td>
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</table>
Table 2 The fit indices for the CFA models

<table>
<thead>
<tr>
<th>Fit index</th>
<th>Single-factor model</th>
<th>Model A (error variances of item 1 and item 2 correlated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$</td>
<td>17.158</td>
<td>7.323</td>
</tr>
<tr>
<td>CFI</td>
<td>.991</td>
<td>.998</td>
</tr>
<tr>
<td>TLI</td>
<td>.982</td>
<td>.994</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.083</td>
<td>.049</td>
</tr>
</tbody>
</table>

Model comparison

Single-factor model vs. Model A $\Delta \chi^2 (4) = 9.835, p < .05$

Study 3: External validity

The objective of study 3 was to investigate the external validity of the PFAI-SM. To this end, a correlation analysis was performed in which fear of failure scores were correlated with achievement goal scores. Drawing from the review of literature on fear of failure, it was hypothesized that fear of failure would be positively correlated to Performance-avoidance (PAv) achievement goals and Mastery-avoidance (MAv) achievement goals.

Method

Participants

Altogether 158 athletes (83 men and 75 women; $M_{\text{age}} = 24.12$, $SD = 5.23$) participating in various sports (e.g., badminton, cycling, football) composed the sample. Their age ranged from 18 to 38 years. On average, they were participating in their sport for 6.36 years ($SD = 4.31$).

Procedure and Measures

With the support of coaches and sport associations the participants were contacted. Some of them were approached directly. Participation was voluntary and all participants provided consent to participate. Confidentiality of the information was assured to the participants.

The Achievement Goals Questionnaire for Sport (AGQ-S; Conroy et al., 2003) was used to assess achievement goals. This 12-item measure provides scores for Mastery-approach goals, Mastery-avoidance, Performance-approach and Performance-avoidance goals. However, for the present purpose only two subscales (Mastery-avoidance and Performance-avoidance) of the measure were considered. Sample items included “I’m often concerned that I may not perform as well as I can perform” (MAv), and “My goal is to avoid performing worse than everyone else” (PAv). Participants were asked to focus on their thoughts and feelings about their sport when responding to the questions. Responses were made on a scale ranging from not at all true of me (-3) to very true of me (+3). AGQ-S
scores have demonstrated evidence of longitudinal factorial invariance, differential stability, external validity, and latent mean stability (AGQ-S; Conroy et al., 2003).

The newly developed PFAI-SM was administered to assess the general fear of failure of the athletes. See Study2 for details of scoring and administration.

**Results and Discussion**

External validity of the PFAI-SM was established by correlating the fear of failure scores with MAv and PAv scores. The strongest predictor of achievement goals available in the literature is fear of failure (Conroy, 2001; Elliot & Church, 1997; Elliot & McGregor, 1999, 2001; Elliot & Sheldon, 1997; Conroy & Elliot, 2004; Nein & Duda, 2008). Research has shown that fear of failure positively predicts MAv, and PAv goals (Elliot & Church, 1997; Elliot & McGregor, 1999, 2001; Nein & Duda, 2008). It is logical to assume that the avoidance goals are related to fear of failure because of the negative valence (avoidance) inherent in these goals. Therefore, we examined the expected positive correlation between fear of failure scores and avoidance goals; namely, PAv and MAv. This study supported the hypothesized associations between achievement goals and fear of failure. The fear of failure scores were positively and significantly correlated with PAv ($r = .69, p < .01$), and MAv scores ($r = .64, p < .01$). These results are in direct accord with the results of an earlier study (Nein & Duda, 2008).

**General Discussion**

The objective of the study was to examine cross-cultural usefulness of the PFAI (Conroy, 2001; Conroy et al., 2002) by analyzing the factor validity, external validity and internal consistency of its Malay translation. The short version of the original PFAI was used to assess general fear of failure of athletes.

As the first study followed the best practice, that is back-translation, in translation of the questionnaire for cross-cultural research (Brislin, 1986). Semantic equivalence between the original version and the Malay version was confirmed by following this procedure. Further concerns for the conceptual vagueness have been ruled out by conducting a preliminary administration and direct interviews with the respondents. The second study established the single factorial structure of the general fear of failure. We may conclude from this confirmatory factor and reliability analysis that the PFAI-SM shows satisfactory construct validity.

Considering the third study results, there is substantial evidence that the PFAI-SM has good external validity. The three studies presented have a common aim of establishing a Malay version of the Short form of the Performance Failure Appraisal Inventory (PFAI; Conroy, 2001; Conroy et al., 2002). The results of these studies provide strong support for the internal and external construct validity of the PFAI-SM. The PFAI-SM would be useful in researches on general fear of failure on Malaysian athletic population. Moreover this questionnaire would be suitable in practice as it takes very short time to administer which is of great significance in the field of competitive sport. Notwithstanding the sound psychometric properties of the PFAI-SM, we recommend further research to confirm the results of the present study.

**Summary and conclusion**

The purpose of the present study was to investigate the cross-cultural validity of the short form of the Performance Failure Appraisal Inventory (PFAI; Conroy, 2001; Conroy, et al.,
2002) by analyzing reliability and validity of a Malay translation. The expected single factor model of the general fear of failure was found to be robust. With respect to external validity, fear of failure scores were positively related to PAv and MAv goals. Based on these findings, we conclude that scores on the PFAI-SM exhibited strong psychometric properties including, factorial validity, internal consistency and external validity. The PFAI-SM would be an appropriate instrument for research on fear of failure in Malay-speaking societies and related cross-cultural studies.

References


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APPENDIX

Inventori Penilaian Kegalalan Prestasi – borang pendek

Arahan: Baca setiap pernyataan di bawah dan fikirkan berapa kerapkah anda percaya setiapnya benar dalam domain sukan anda (cth sukan, akademik). Gunakan skala penilaian di bawah untuk menunjukkan betapa kepercayaan setiap pernyataan berkait dengan anda.

<table>
<thead>
<tr>
<th>Tidak percaya sama sekali</th>
<th>50% masa percaya</th>
<th>100% percaya</th>
</tr>
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<tbody>
<tr>
<td>+2</td>
<td>+1</td>
<td>0</td>
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<th>+2</th>
<th>+1</th>
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<tbody>
<tr>
<td>Tidak percaya sama sekali</td>
<td>50% masa percaya</td>
<td>100% percaya</td>
</tr>
</tbody>
</table>

1. Bila saya kalah, saya risau kemungkinan saya kurang berbakat.
2. Bila saya kalah, rancangan masa depan saya akan terganggu.
3. Bila saya tidak berjaya, orang akan kurang berminat terhadap saya.
4. Bila saya kalah, pihak lain akan kecewa.
5. Bila saya kalah, saya risau pendapat pihak lain terhadap saya.