

Psychological and Socio-Cultural Correlates of Motor Skill Development of Athletes in Botswana

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Abstract

This study provides information on the psychological and sociocultural correlates of motor skill development of athletes in Botswana. Seventy-three (73) student athletes were sampled on a psychosociocultural and motor skills development questionnaire. Results indicated a positive and moderate relationship of the psychological and sociocultural variables on the athletes' motor skill development. Also, significant gender difference were not ($P > .05$) apparent in mean rating with the psychological and sociocultural variables as they influenced the athletes' motor skill development.

Introduction

A fundamental component of human experience that is often taken for granted and which is a vital part of the field of human development is motor behavior development. Motor development deals with movement skill behavior and the associated biological changes in human movement across life span. It may also be viewed as the process of change in motor behavior resulting from the interaction of biological systems and the environment. (Gabbard, 2004).

An excellent theory that is closely linked to the development of motor skill behavior which is most appropriate to athletes is the ecological task analysis model (Burton & Davis, 1996). The theory incorporates the developmental systems elements of the performer (athlete) and the environment. Emphasis is also given to a third factor which is the task as part of the environmental context. Another comprehensive frame work for understanding the socio-cultural influences of motor skill behavior is the ecological systems model (Bronfenbrenner, 1986, 2000). This model places the athletes in the context of this paper at a theoretical centre surrounded by five environmental systems which are Microsystems, mesosystems, ecosystem, macro system and the chronosystem. The most direct interactions are with the microsystem, the environment in which the athletes lives. Influential agents in this context will be the family, school, peers and the opportunity sets in the community.

The experiences in the motor domain according to Gallahue and Ozmun (2006) interact in many ways with the psychological characteristics of individuals. A common technique used to explore this motor-psychology relationship is the examination of psychological factor following involvement in sports, exercise and other physical activities. Factors such as sense of well-being, confidence, perception of locus of control and awareness of body image self esteem, and

even the state of depression have been improved following involvement in sports and exercise activities.

Self-esteem which is a notable psychological factor is considered by some to be a critical index of mental health, a high sense of worth during childhood is linked to satisfaction in later life. However, individuals' sense of worth may vary according to different motor skill domains and area of competence. Variation within the motor skill behavior domains is not uncommon according to Harter (1997) who was of the opinion that some athletes, for example, may have a strong sense of self-worth in basketball but not in baseball or track. Indications are that feelings about self-esteem are relatively well established by middle childhood. Within the context of sport involvement, researchers have found that such participation generally is associated with higher self-esteem (Hall et al, 1986; Kirshnit et al, 1988). It would seem reasonable to expect a person with good self esteem regarding physical ability to be more likely to engage in complementary activities such as various sport involvement. On the other hand, research confirms that a person with low sense of physical competence is more likely to avoid these opportunities (Weiss, 1993).

Early involvement in physical activity and sport socialization is a key factor in motor skill development of individuals and the likelihood of further participation in physical activities. The primary sociocultural influences that have been shown to influence motor skill development for sports and other physical activities are the family, peer groups and social situations which provides motor skill development opportunities. Coackley (1987) noted that children's involvement in informal or organized sports is influenced by the availability of opportunities, support from the family, peers, role models, the general community and the child's self-perception as a participant. Out of all these influences, there are strong indications that the peer group is a dominant factor with respect to motor skill development needed for sports and physical activity. The peers have the potential to reinforce family influences on the athletes motor skills development, Coackley concluded.

Motor skill development is reflected in the appearance of new skills and their refinement in movement process and product. The interaction of the psychological and sociocultural correlates along with the physical and physiological make up of these athletes assist to predict how well the athletes motor skill behavior can be well developed.

It is in the light of this that the psychological and sociocultural correlates of the athletes' motor skill development were examined. These psychological and socio-cultural correlates of motor skill development were also examined by gender with the view to establish whether they differ significantly.

Methods

Participation

The sample used in the study consisted of (73) adolescent secondary school students from 5 schools in the capital city, Gaborone, who were involved in sports. Their sports involvement is shown in Table 1. The mean age for the male athletes was 16.9 years (SD = .98) while the mean age for the female athletes was 16.8 years (SD= .88). 45.2% of the athletes were male, while 54.8% of the athletes were female.

Measures

A self-report consisting 16 items on psychological and socio-cultural correlates of sport was used. The items focused psychological attributes such as self esteem, confidence, attention and concentration, socializing opportunities of the family, and peer group in relation to motor skill development was used. Each of the sub-scales consisted of 4 items each and internal consistencies were analyzed for each scale, and result from the coefficient alpha analysis revealed an appreciable strong Cronbach alpha values which ranged from .73 to .81 (see Table 2).

Psychological and socio-cultural subscales are the independent measures, while the dependent measure was another 12 items self-report measure of motor skill development. The alpha value was .72. The instruments were subjected to content and construct validation to improve the clarity of the instrument with the assistance of psychometric experts. The two self-report measures were closed ended 4 points Likert scale that measure the extent or level of agreement or disagreement.

Procedure

After approval was given by the schools' head teachers and the student athletes consent sought, the questionnaire were administered to the students by the researchers and the research assistants. Instructions were provided and the contents were explained. Confidentiality of subjects' responses was assured prior to data collection.

Analyses

SPSS version 14.0 (Statistical Package for the Social Sciences, 2005) was used for data analysis. Descriptive statistics of mean, standard deviation and percentage were used. Student t-test analysis was conducted to determine if significant differences exist with the measures by gender. Also, a correlation analysis was entered into the regression analysis which is consistent with Cohen, Cohen, West, & Alken's (2003) recommendation to predict changes in mean scores.

Results

Table 1 -Frequency distribution and Percent by sports and sex

Sports	f	%	Gender	f	%
Athletics	4	5.5	Male	33	45.2
Badminton	5	6.8	Female	40	54.8
Basketball	10	13.7			
Cricket	1	1.4			
Football	16	21.9			
Golf	2	2.7			
Karate	2	2.7			
Netball	6	8.2			
Rugby	6	8.2			
Softball	3	4.1			
Swimming	1	1.4			
Tennis	9	12.3			
Volleyball	8	11.0			
Total	73	100.0		73	100.0

Table 2 - Correlation matrix, means, standard deviation and cronbach coefficient alpha of psychological, socio-cultural and motor skill development sub-scales (N=73).

Subscale	M	SD	r				
			1	2	3	4	5
Psychological Attributes	19.2	2.71	.73*	.30+	.64+	.46+	.51+
Family	10.0	3.04		.75*	.43+	.55+	.48+
Peer	11.7	2.64			.78*	.57+	.48+
Social Situations	10.2	2.52				.81*	.52+
Motor Skill Development	23.2	2.74					.71*

+ P<.01

Note: * Cronbach coefficient alpha on diagonal

The result in Table 2 revealed the correlation matrix, means and standard deviation values for the psychological, socio-cultural and motor skill development sub-scales, the relationship among the sub-scales ranged from $r = .30$ to $r = .64$. The relationships were moderate and positive. The strength of the coefficient alpha for the sub-scales were strong and ranged from .72 to .82. The coefficient alpha recorded for the sub-scales are in consistent with the commonly accepted criterion of .70 (Nunnally, 1998).

Table 3 - Composite effect of the psychological, socio-cultural and motor skill development. Showing the ANOVA summary of the Regression analysis

Model	Sum of Square	Mean	Df	F	Sig
Regression	55.611	13.903	4		
Residual	371.373	6.752	68	2.05	.04
Total	426.983		72		

R = .36 AdjR2 = .06

R2 = .13 Stand Error = 2.59

The result in Table 3 revealed the combined effect of the psychological and socio-cultural variables on the athletes motor skill development. The Analysis of variance summary of the regression analysis revealed a significant $F(4,68) = 2.05$; $P<.05$ combined effect of the psychological and the socio-cultural variables on the athletes motor skill development. The psychological and socio-cultural variables significantly contributed 6% (AdjR2 - .06) to the variance of motor skill development.

Table 4 - Parameter Estimate of the relative contribution of Psychological, and socio-cultural influence on Motor Skill Development

Variables	Unstandardized Coefficient		Standardized Coefficient	t	Sig
	β	Stand Error	Beta		
(Constant)	15.63	2.795		5.59	.000
Psychological Attributes	.244	.147	.257	1.66	.102*
Family	5.726	.141	.065	.405	.687*
Peers	8.857	.136	.083	.649	.519*
Social Situations	.239	.138	.231	1.726	.090*

Note: Dependent variable = Motor Skill Development

* $P>.05$ = Not significant

Explicitly, no significant ($P>.05$) prediction was apparent with the psychological and socio-cultural variables on motor skill development as indicated in Table 4.

Table 5 -Student t-test analysis of the Psychological, socio-cultural variables on motor skill development by gender

Variables	Gender	N	Mean	SD	df	t	Sig
Family	Male	33	18.68	2.50	71	1.59	.070*
	Female	40	19.30	2.87			
Peer	Male	33	9.06	2.85	71	1.66	.102*
	Female	40	10.79	3.01			
Social Situations	Male	33	11.65	2.36	71	.405	.687*
	Female	40	11.87	2.88			
Psychological Attributes	Male	33	9.41	2.44	71	.649	.519*
	Female	40	10.86	2.43			
Motor Skill Development	Male	33	22.83	2.26	71	1.72	.090*
	Female	40	23.52	3.07			

* $P>.05$ =Not Significant

Significant difference was not apparent with psychological and socio-cultural variables on the athletes motor skills development by gender as indicated in Table 5. However, the female athletes motor skills development seems to be more influenced by the psychological and socio-cultural variables than the male counterparts when the mean values for the variables were compared.

Discussion

The aim of the study was to examine the psychological and socio-cultural correlates of motor skills development of athletes in secondary school in Botswana and secondly to find out whether the athletes differ on these variables by gender.

Understanding the socio-cultural and psychological factors that influences physical activity and sport involvement is a central tenet to promoting motor skill development among athletes especially during their childhood and through the adolescence period. The linear combinations of the psychological and sociocultural measures as revealed in the result were significantly related to the athletes motor skills development. The consistency and strength of associations of the psychological and socio-cultural variables have been linked to enhanced motor skills competence of individuals especially during sport socialization process. The belief that maturation is how motor skill develops according to Clark (2007) puts more emphasis on the biological or hereditary aspect than the psychological and socio-cultural factors but the process by which motor skills develop is more complex. Motor skills of these athletes change through an interactive process between the individuals' biological or hereditary constraints and psychosocial-cultural environment. A strong motor skill foundation at the start provide for these athletes new movement opportunities later in life and not just their participation in sports and other physical activities.

Gender roles are social expectations of how individuals should act and think as female and males. Along with being influenced by biological factors, socio-cultural and psychological variables also plays significant roles in the motor skill behavior of individuals (Fagot &

Leinbach, 1987; Campbell & Eaton, 2000). Though significant difference was not apparent on the psychological and socio-cultural variables in relation to motor skill development as revealed in this study by gender, it is worthy to note that what basically determine how these variables influence both gender depends on the individuals perceived experience as provided by the social situations in the environment.

In conclusion, individuals come with preadapted motor skills behaviors that are built into the central nervous systems. But even reflexes, such as sucking and grasp reflexes of these athletes were modified at their infancy because of their experiences with the environment. Therefore, motor skills should always be properly nurtured, promoted and practiced because of its critical function in the overall lifetime development of the individuals.

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