

Relationship among Flow, Self-Concept, and Sports Performance of Club Hockey Players in North-East Zone, Nigeria

BY

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ABSTRACT

This study was designed to determine the Relationship among flow, self-concept, psychological skills and sports performance of club Hockey Players in North-East Zone, Nigeria. Two objectives were set, two research questions answered; and two hypothesis tested. The study utilized two theories; flow theory denotes the zone as a rare dynamic state characterized as the experience of self-rewarding and enjoyable involvement, while Carl Roger's theory of personality grew out of his client-centered approach to psychotherapy and behavior change. The study adopted Survey Research Method. Survey research is used for descriptive, exploratory and explanatory purposes. The population for this study comprised all club Hockey players from Adamawa, Bauchi, Borno, Gombe, Taraba and Yobe states. Each state was represented by 36 club Hockey players comprising 18 male and 18 female. Quota sampling technique was used to select a sample of 180 club Hockey Players consisting of 90 male and 90 female. Research instrument used for the study was a 30-item self-developed Questionnaire and the statement were derived from literature in cognizance with the objectives of the study. These items constitute information on the demographic data of the respondents, information on flow; the performance is determined through a winning of matches which attract three (3) points. A draw attract (1) point while a loss attract no point. Results showed that there was a Significant Relationship among flow and sport performance among club Hockey Players in North-East Zone, Nigeria. While there was no significant difference in flow, self-concept, psychological; skills and sport performance among male and female club Hockey players in North-East Zone, Nigeria. It was therefore concluded that flow and psychological skills are positively related to sport performance that the higher the flow and psychological skills, the higher the performance among club Hockey players in North-East Zone, Nigeria, and it was also recommended that self-concept is independent of performance, coaches should therefore be aware that self-concept is not a hindrance to sport performance among club Hockey Players in North-East Zone, Nigeria and should therefore not placed too much emphasize on it.

Keyword: Relationship among Flow, Self-Concept, and Sports Performance of Club Hockey Players in North-East Zone, Nigeria

Introduction

Attaining high standard performance in sports and physical activity is the desire of every athlete. Achieving high standard of sports performance depends on many factors, such as training, skill acquisition, fitness level, total concentration, time transformation, emotional control and sports participation. Understanding the psychological factors that contribute to sports performance is very important for both coaches and sports psychologists.

Flow is a very positive psychological state that typically occurs when a person perceives a balance between the challenges associated with a situation and his/her capabilities to accomplish or meet the demands (Csikszentmihalyi, 1990). Some of the psychological factors that contribute to high level performance include; flow, self- concept and other psychological skills such as self-talk, emotional control, goal setting and imagery. Flow is a deep level of concentration and attention that is practically difficult to be altered by external or internal distractions. It could be described further as a state of being completely engrossed in the execution of a performance to the exclusion of everything else.

Flow is predicted to occur when this balance occurs and is above a person's average skills-challenge balance while several flow characteristics, or dimensions have been described by Csikszentmihalyi (1990, 1993) and supported in the sport environment through qualitative and quantitative research (Jackson, 1996; Jackson & Marsh, 1996). These dimensions of flow are, challenge-skill balance, merging of action and awareness, clear goals and feedback, total concentration on the task at hand, sense of control, loss of self-consciousness, time transformation and an auto telic (intrinsically rewarding) experience.

Knowledge of factors associated with the attainment of flow is important for those interested in the quality of athletes experience and performance in competition. Flow is generally viewed as peak performance state, Jackson and Roberts, (1992); Mchnman & Grove, (1991) and Privatte and Bundrick (1991) explained peak performance as a standard of accomplishment in sport performance, while flow is a psychological state. Achieving peak performance is an important goal for competitive athletes and coaches, and flow can facilitate the attainment of this. The mind-set accompanying flow tends to push a person to his/her limits, and this is one reason why flow is so important to athletes seeking to do their best. As athletes and coaches know all too well, it is difficult to have the body perform to high levels when the mind is not focused (Csikszentmihalyi, 1990).

Understanding flow, however, requires more than the development of sports potentials. Once the keys to flow are understood, the opportunity to develop one's whole life according to flow principles begins to emerge. It is possible to transform the entirety of life from a stressful and chaotic case into something resembling an enjoyable dance (Myers, 1992). Researchers have found a strong positive relationship between flow and performance. For example flow is positively associated with artistic and scientific creativity (Perry, 1999; Sawyer, 1992), effective teaching (Csikszentmihalyi, 1996), and peak performance in sports (Jackson, Thomas, Marsh & Smethurst, 2002; Stein, Kimiecik, Daniels & Jackson, 1995). In a longitudinal study involving students talented in mathematics, Heine, (1996) showed that those who experienced flow in the first part of the course performed better in the second half, controlling for their initial abilities and grade point average (GPA). Longitudinal studies on resilience suggest that, in addition to enhancing positive outcomes, a subjectively optimal matching of challenge and skill in daily life may protect against negative outcomes (Schmidt, 1999).

Flow also has a strong correlation with the further development of skills and personal growth (Jackson, 1992). When one is in a flow state he/she is working to master the activity at hand.

To maintain that flow state, one must seek greater challenges. Attempting these new, difficult challenges stretches one's skills, one emerges from such a flow experience with a bit of personal growth and great "feeling of competence and efficacy" (Csikszentmihalyi, Abuhamdeh & Nakamura, 2005).

Self-concept refers to the totality of a complex, organized and dynamic system of learned beliefs, attitudes and opinions that each person holds to be true about his/her personal existence. Franken, (1994) states that there is a great deal of research which shows that the self-concept is, perhaps, the basis for all motivated behavior. It is the self-concept that gives to possible selves, and it is possible selves that create the motivation of behavior.

There is the need to examine association between athletic self-concept and flow because there is evidence that self-concept facilitates other favorable outcomes in sports and exercise, as well as being a desired concept of participation itself (Marsh, Hey, Johnson & Perry, 1997). Components of physical self-concept have been associated with athletic participation (Jackson & Marsh, 1986), fitness indicators (Marsh & Redmayne, 1994) and self esteem (Sonstroem, 1997). The Significance of the physical self is evidenced by the wealth of research that is accumulating in this area as illustrated in a study by Fox (1997a) which showed that physical self-concept has come to be viewed as important determinant of behavior and a contributor to mental health and well being. Overtime, these athletes may require even greater successes to achieve the same satisfaction or emotional 'high'. Therefore, the goal to success can become a relentless quest for these athletes (Crocker & Nuer, 2004). Athletic self-concept is expected to be positively related to flow based on the positive associations that have been found between perceived ability and flow (Jackson, Kimiecik, Ford & Marsh, 1998; Jackson & Roberts, 1992). Marsh, (1994) investigated the multiple dimensions of self-concept in Co-educational high schools in Australia and found that self-concept declined during the preadolescent years, leveled in the middle adolescent years, and increased in later adolescence.

Self-concept, variables have no predictive value for the scholastic achievement of secondary school students in South Africa (Tzuriel, 1990). In a related study, Burns (1988) reported that less emphasis was laid on coping with societal problems than on issues that affected the personality of white and coloured adolescent students in South Africa. Tzuriel (1990) conducted a study on sex differences in mathematics achievement among 12th graders in seven countries (South Africa, Namibia, Botswana, Zimbabwe, Mozambique, Angola and Zambia) and concluded that the data tended to contradict the theories that explain boys' superiority in mathematics on the basis of biological factors. However, the study did not address the issue of whether general self-concept may influence academic self-concept, and that general self-concept during adolescence are not surprising, as it is well accepted that girls do indeed develop at some stages of early adolescence much more quickly than boys. Because girls are more biologically advanced than boys during certain stages of adolescence, it can reasonably be concluded that their self-concept would also be more advanced.

The relationship between flow and athletic self-concept were examined in this study in order to increase understanding of how these constructs may be associated with flow experiences. Flow is expected to demonstrate positive associations with performance assessments. Field Hockey is played on gravel, natural grass, sand-based or water-based artificial turf, with a small handball approximately [73mm] in diameter. The game is popularly among both males and females in many parts of the world including Nigeria. Meris Field Hockey has been played at each summer Olympic games since 1908 [Except 1912 and 1924], while women's field Hockey has been played at the summer Olympics since 1980. The club Hockey players in the North-East Zone, Nigeria had

participated in the National League Hockey Competition and National Sports Festival as far back as 1989 to date. Borno state came first [1st] at the National League Competition held in Osun - Osun state in 2000 while Yobe desert Hockey team came 2nd at the National sport festival held in Portharcourt in 2004. Adamawa flickers of Adamawa state came 3rd at the 2004 General Salihu Ibrahim Under 21 Hockey competition held in Abuja. This level of performances by the club Hockey players in the North-East Zone, Nigeria described as a state of being completely engrossed in the execution of a performance of the exclusion of everything else. The researcher was motivated to conduct this study on Hockey players in the North-East Zone, Nigeria because of the interest the researcher has in the game to thrive. Hockey teams in the North-East Zone, Nigeria have performed extremely well at both National Sports Festivals and International Competitions before, for example in the J.F. Kennedy Hockey Tournaments. However, over the years these clubs' performances have dwindled. Although other factors like economy support from host government could be responsible for the dwindling performance, the researcher determined the relationship among flow, self-concept, psychological skills and sports performance among club hockey players in North -East zone, Nigeria.

Statement of the problem

Achieving peak performance is an all important goal for competitive athletes and coaches. Flow, self-concept and psychological skills can facilitate such outcomes. The mindset accompanying flow tends to push a person to his/her limits and this is one reason why flow is so important to athletes seeking to do their best. Athletes and coaches know all too well that it is difficult to have the body perform to high levels when the mind is not focused. To achieve a flow state, a balance must be struck between the challenge of the task and the skill of the performer. If the task is too easy or too difficult, flow cannot occur. It has been observed that Hockey teams in the North-East Zone, Nigeria have performed extremely well at both National sport festival and international competitions before, for example in the J.T Kennedy tournaments. However, experiences have shown that over the years these clubs performance have dwindled. It has also been observed that the psychological aspect of training has been down played by coaches, and Coaches in the North-East zone do not seem to have the technical know-how to integrate some of these skills like goal setting, relaxation, concentration and imagery into their training programmes. Selecting appropriate psychological skills and imparting them on players will go a long way in enhancing flow and performance of players. Great improvement could be achieved in sport performance of Hockey players in competitive Hockey tournament. On the bases of the forgoing observation, this study determined the relationship between flow, self-concept, psychological skills and sport performance among club Hockey player in North-East Zone, Nigeria.

Objectives of the Study

The objectives of this study were to determine:

1. Level of flow among club Hockey players in North-East Zone of Nigeria.
2. Level of self-concept among club Hockey players in North-East Zone of Nigeria.

Research Questions

The following research questions were answered:

1. What is the level of flow among club Hockey players in North-East Zone, Nigeria?
2. What is the level of self-concept among club Hockey players in North-East Zone, Nigeria?

Hypotheses

The following null hypotheses were tested;

Ho₁: There is no significant relationship among flow and sports performance among club Hockey players in North-East Zone, Nigeria.

Ho₂: There is no significant relationship between self-concept and sports performance among club Hockey players in North-East Zone, Nigeria.

Research Design

The design adopted for this study was the survey method. The survey method presents accurate description of an area of interest providing detailed information that describes a phenomenon (Nworgu, 1991). Survey is also well suited for gathering demographic data that describes the composition of the sample. Pinsonneault and Kraemer (1993) defined a survey as a “means for gathering information about the characteristics, actions or opinions of a large group of people”. (Bell,1996). Survey research is used for descriptive, exploratory and explanatory purposes. Osuala (2001) described survey study as that which seeks to establish relationship between a number of qualifiable variables for making prediction. (Fajonyomi, 2012) reported that survey design is used for exploratory, descriptive and explanatory purposes. It seeks information from selected individuals to represent the larger group. He further remarked that the findings obtained from selected individuals called sample can be generalized to the larger group called population. Hence this study adopted the survey method since it determined the relationship among flow, self-concept, psychological skills and sports performance among Hockey players of North-East zone of Nigeria.

Population and Sample

The target population for this study comprised all club Hockey players from Adamawa, Bauchi, Borno, Gombe and Yobe states. The total population for male was one hundred and seventy five [175] while the female had a total population of one hundred and twenty five [125]. The researcher selected a sample of eighteen [18] male Hockey players out of 35 registered players representing fifty one point four percent [51.4%] while eighteen [18] female Hockey players were selected out of twenty five [25] representing seventy two percent [72%]. These male and female Hockey players were normally allowed to register for any competitive tournaments. Quota sampling techniques was used to select a sample of one hundred and eighty [180] club Hockey players consisting of ninety [90] females from the five [5] state. Quota sampling techniques is a method that ensured that a certain number of sample units from different categories with specific characteristics appear so that all these characteristics are presented. [Varke-Visser,1991].

Table 3:1 Sample selection and states team

S/No	States	Registered players		Players selected		Percentage	
		Male	Female	Male	Female	Male	Female
1.	Adamawa flickers	35	25	18	18	51.4	72
2.	Bauchi flickers	35	25	18	18	51.4	72
3.	Borno flickers	35	25	18	18	51.4	72
4.	Gombe flickers	35	25	18	18	51.4	72
5.	Yobe Desert	35	25	18	18	51.4	72

Source: Borno state sport council, 2011.

Method of Data Analysis

The data collected for this study were analyzed using descriptive statistics of frequency counts and Percentage to describe the demographic information about the respondents. Pearson Product Moment Correlation Coefficient was used to test hypotheses 1 and 2 at 0.05 level of significance.

Results

Table 4.1 Demographic Information about the respondents

S/N	Variable	Responses	Respondents	Percentage
1	Gender	a. Male	90	50
		b. Female	90	50
2	Age	a. 15 – 20 years	57	31.7
		b. 21 – 25 years	54	30.0
		c. 26 – 30 years	40	22.2
		d. 31 and above	29	16.1
3	Clubs	Adamawa flickers		
		a. Male	18	10.0
		b. Female	18	10.0
		Bauchi flickers		
		a. Male	18	10.0
		b. Female	18	10.0
		El-Kanemi flickers		
		a. Male	18	10.0
		b. Female	18	10.0
		Gombe flickers		
		a. Male	18	10.0
		b. Female	18	10.0
		Yobe Desert		
		a. Male	18	10.0
		b. Female	18	10.0

Table 4.1 describes the demographic information of the respondents; these items are gender, Age and Clubs.

Table 4.1 displays the demographic characteristics of the respondents. The total number of the respondents was 90 (50%) male and 90 (50%) females. The second variable was age of the respondents. Distribution of age shows that 57 (31.7%) were between the ages of 15 – 20 years, 54 (30.0%) were between the ages of 21 – 25 years. Similarly 40 (22.2%) were between 26 – 30 years and 29 (16.1%) were between 30 years and above. The third variable was the respective clubs of the respondents. The table indicates that 36 (20.0%) were both male and female athletes from Adamawa flickers of Adamawa state. 36 (20.0%) respondents are both male and female athletes from Bauchi flickers of Bauchi state while 36 (20.0) both male and female athletes from El-Kanemi flickers of Borno state. 36 (20.0%) both male and female athletes from Gombe flickers of Gombe state and 36 (20.0%) both male and female athletes from Yobe Desert and Yobe Queens of Yobe State.

Research Question 1: what is the level of flow among club Hockey Players in North-East Zone, Nigeria.

Table 4.2a Level of flow among club Hockey Players in North-East Zone, Nigeria.

Table 4.2a: Flow Male

Item	Borno	Gombe	Bauchi	Adamawa	Yobe
	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$
1. Happening automatic	4.44±0.78	2.00±0.00	4.43±0.51	1.50±0.63	3.72±1.57
2. Extremely rewarding	3.94±0.99	4.53±0.51	4.19±0.40	2.94±1.34	3.04±1.68
3. Focus on goal	3.94±1.05	1.26±0.45	1.81±0.40	2.06±1.53	1.55±0.50
4. Concentration on a task	4.22±0.94	1.74±0.45	1.63±0.50	2.44±1.47	1.81±1.01
5. What I am doing	3.78±1.22	2.00±0.00	1.38±0.50	2.25±1.43	1.45±0.59
6. Self-talk	3.61±0.97	2.16±0.60	1.87±0.96	1.87±1.02	1.95±0.65
7. Control myself	3.72±1.48	1.84±0.37	1.00±0.00	1.88±1.45	1.45±0.59
Total	*3.95±1.06	*2.21±0.34	*2.53±0.46	*2.13±1.26	*2.13±0.94

*High level of flow

Table 4.2a above shows the mean and standard deviation of each variable under flow for male from which is Borno state had a mean and standard deviation 3.95±1.06 this indicates that Borno state had a high level of flow. While Gombe had a total mean and standard deviation of 2.21±0.34, this indicates that Gombe state male team had a high level of flow. This followed by Bauchi state male team which had a total mean and standard deviation of 2.53±0.46, Bauchi state male are having a high level of flow. Adamawa state male team had a total mean and standard deviation of 2.13±1.26 this implies that Adamawa state male team had a high level of flow. While Yobe state male team had a total mean and standard deviation of 2.13±0.94 which indicates that Yobe state male team had a high level of flow. To determine the level of performance (flow) [high or low] the researcher used the marks obtained from the respond mode SA (5) A (4) UD (3) D (2) and SD (1). All mean and standard deviation above 2:00 had a high level of performance while mean and standard deviation of less than 2:00 and below had a low level of performance.

Table 4.2b Level of flow among female club Hockey players in North-East zone, Nigeria.

Table 4.1: Flow Female

Item	Borno	Gombe	Bauchi	Adamawa	Yobe
	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$
1. Happening automatic	3.75±1.56	1.78±0.42	1.57±0.50	1.78±0.91	2.28±1.54
2. Extremely rewarding	3.50±1.20	4.42±0.96	3.32±1.34	3.47±1.17	3.64±1.34
3. Focus on goal	4.16±0.71	1.36±0.49	1.57±0.50	1.63±0.71	1.64±0.49
4. Concentration on a task	4.33±0.77	1.63±0.49	1.63±0.49	1.47±0.51	1.64±0.49
5. What I am doing	4.33±1.13	1.84±0.37	1.63±0.49	2.00±1.00	1.57±0.51
6. Self-talk	3.72±1.36	1.84±0.74	2.00±0.74	2.00±1.00	2.43±1.01
7. Control myself	3.56±1.78	1.58±0.51	1.52±0.51	2.00±1.00	2.07±0.62
Mean±SD	*3.91±1.10	*2.06±0.56	1.89± 0.78	*2.05±0.47	*2.18±0.86

*high level of flow

Table 4.2b above shows the mean and standard deviation of each variable under flow for female team from which in Borno state had a total mean and standard deviation 3.91±1.10, this indicates that Borno state female team had a high level of flow. While Gombe state female team had a total mean and standard deviation of 2.06±0.56, this indicates that Gombe state female team had a high level of flow. This followed by Bauchi state female team which had a total mean and standard

deviation of 1.89 ± 0.78 , this indicates that Bauchi female team had a low level of flow. Adamawa state female team had a total mean and standard deviation of 2.05 ± 0.43 , this implies that Adamawa state female team had a high level of flow. While Yobe state female team had a total mean and standard deviation of 2.18 ± 0.86 which indicates that Yobe state female team had a high level of flow.

Research Question 2: What is the level of self-concept among club Hockey players in North-East Zone, Nigeria.

Table 4.3a Level of self-concept among male club Hockey Players in North East, Zone Nigeria.

Table 4.3a: Self concept Male

Item	Borno	Gombe	Bauchi	Adamawa	Yobe
	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$
1. good shape	4.11±0.67	1.73±0.45	1.68±1.19	1.63±0.62	1.86±1.03
2. feel confident	2.67±1.24	5.00±0.00	3.75±1.12	3.06±1.18	4.18±1.29
3. Sporting activities	3.61±1.14	1.95±0.23	2.00±0.89	1.87±0.95	2.78±1.27
4. Maintain regular exercise	3.94±0.73	1.05±0.22	1.94±1.12	2.06±0.93	1.73±0.70
5. Good looking body	3.61±1.03	4.89±0.32	4.13±0.95	2.37±1.41	3.27±1.35
6. Physical strength	3.72±1.94	5.00±0.00	3.18±0.40	3.31±1.35	3.22±1.63
7. I am proud	3.67±1.37	2.00±0.00	1.81±0.40	2.18±1.56	2.36±1.43
8. Always satisfied	3.39±1.38	1.00±0.00	1.87±1.20	2.06±1.28	1.82±0.91
9. I feel insecured	3.22±1.39	5.00±0.00	3.94±0.85	2.75±1.34	3.82±1.46
Total	*4.56±1.56	*3.94±0.17	3.47±1.16	3.04±1.52	*3.58±1.58

*high level of self-concept

Table 4.3a above shows the mean and standard deviation of each variable under self-concept for male from which in Borno state male team had a total mean and standard deviation of 4.56 ± 1.56 , this indicates that Borno male team had a high level of self-concept. Which Gombe had a total mean and standard deviation of 3.94 ± 0.17 , this implies that Gombe state male team had a high level of self-concept. This followed by Bauchi state male team which had a total mean and standard deviation of 3.47 ± 1.16 , this indicates that Bauchi state male team had low level of self-concept. Adamawa state male team had a total mean and standard deviation of 3.04 ± 1.52 , this implies that Adamawa state male team had a low level of self concept. While Yobe state male team had a total mean and standard deviation of 3.58 ± 1.58 which indicates that Yobe state male team had a high level of self-concept. To determine the level of performance on self-concept [high or low] the researcher used marks obtained from the respond mode SA (5) A (4) UD (3) D (2) and SD (1). All mean and standard deviation above 3.50 had a high level performance on self-concept while mean and standard deviation of less than 3.50 had a low level of performance on self-concept.

Table 4:3b Level of self-concept among female club Hockey players in North-East zone, Nigeria

Table 4.3b: Self concept Female

Item	Borno	Gombe	Bauchi	Adamawa	Yobe
	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$
1. Good shape	4.11±0.68	1.74±0.45	1.53±0.51	2.05±0.97	1.43±0.51
2. Feel confident	2.89±1.36	4.68±0.75	4.26±0.99	3.36±1.30	3.50±1.45
3. Sporting activities	3.94±1.05	1.84±0.37	1.78±0.53	2.11±1.04	2.14±0.95
4. Maintain regular exercise	4.16±0.71	1.05±0.23	1.47±0.51	1.84±1.07	1.64±0.49
5. Good Looking body	3.05±1.16	4.57±0.42	3.52±1.50	2.84±1.25	3.43±1.16
6. Physical strength	3.16±1.04	4.78±0.42	3.78±1.32	3.58±1.38	4.14±0.77

7. I am proud	3.94±1.16	1.84±0.37	1.84±0.37	2.21±1.23	2.21±1.25
8. Always satisfied	3.78±1.22	1.11±0.32	1.47±0.51	2.63±1.26	2.00±0.67
9. I feel insecure	2.72±1.23	4.78±0.42	3.57±1.43	2.68±1.34	3.07±1.33
Total	*4.53±1.37	*3.77±0.49	3.32±1.09	3.32± 1.54	3.36±1.36

*high level of self-concept

Table 4.3b above shows the mean and standard deviation of each variable under self-concept for female team from which in Born state male team had a total mean and standard deviation of 4.53±1.37, this implies that Borno state female team had a high level of self-concept, while Gombe had a total mean and standard deviation of 3.77±0.49, this indicates that Gombe state female team had a high level of self-concept. This followed by Bauchi state female team which had a total mean and standard deviation of 3.32±1.09, this indicates that Bauchi female team had a low level of self-concept. Adamawa state female team had a low level of self-concept. While Yobe state female team had a total mean n standard deviation of 3.36±1.36 which indicates that Yobe state female had a low level of self-concept.

Ho1: There is no significant relationship between flow and sport performance among club Hockey players in North-East zone, Nigeria.

Table 4.10 Summary of Pearson product moment correlation coefficient analysis between flow and sport performance.

S/N	Variables	Flow	Sport performance	R	P-value	Decision
1	Adamawa flickers	29.5	19.0	0.726	0.008	*5
2	Bauchi flickers	26.1	29.00	0.632	0.038	*5
3	El-Kanemi flickers	27.8	24.0	0.981	0.004	*5
4	Gombe flickers	28.8	21.0	0.618	0.084	*5
5	Yobe Desert	25.7	31.0	0.935	0.480	*5

* Significant at 0.05

Table 4.10 reveals the mean scores of each of the five teams on flow and sport performance. Pearson Product Moment Correlation Coefficient was used to determine the relationship between flow and sport performance calculated value of $r = 0.726, 0.632, 0.981, 0.618$ and 0.935 was obtained for the respective states at p-values of 0.008, 0.038, 0.004, 0.084, 0.480 which is less than $p < 0.05$ level of significance. Since the calculate p-values are less than 0.05. therefore the null hypothesis was rejected which implies that there is significant relationship between flow and sport performance.

Ho2 There is no significant relationship between self-concept and sport performance among club Hockey players in North-East zone, Nigeria.

Table 4.11 Summary of Pearson Product Moment Correlation Coefficient Analysis between self-concept and sport performance.

S/N	Variables	Self-concept	Sport performance	R	P-value	Decision
1	Adamawa flickers	33.5	19.0	0.173	0.320	*NS
2	Bauchi flickers	26.4	29.0	0.807	0.282	*NS
3	El-Kanemi flickers	32.3	24.0	0.174	0.309	*NS
4	Gombe flickers	32.8	21.0	0.931	0.014	*5
5	Yobe Desert	29.1	31.0	0.719	0.062	*NS

Table 4.11 reveals the mean scores of each of the five teams on self-concept and sport performance. Pearson Product Moment Correlation coefficient was used to determine the relationship between self-concept and sport performance. Calculated r-values; $r = 0.173, 0.807, 0.174, 0.931$ and 0.719 was obtained for the respective states at p-values of $0.320, 0.282, 0.309, 0.014, 0.062$ which is greater than $p > 0.05$ level of significance. Since the calculate p-values are greater than 0.05 . Therefore the null hypothesis is accepted which implies that there is no significant relationship between self-concept and sport performance among club Hockey players in North-East zone, Nigeria.

Summary of Findings

1. There is a significant relationship between flow and sport performance among club Hockey players in North-East zone of Nigeria.
2. There is no significant relationship between self-concept and sport performance among club Hockey players in North-East zone of Nigeria.

Discussion

Understanding the psychological factors that accompany successful athletic performance is a priority for applied sport psychology with a major area of focus being mental links to optimal performance. This study examined specific links between self concept, psychological skills and strategies and the optimal mental state of flow as well as relationship between flow and optimal performance. The results of this study are the relationship between flow and sport performance shows that there was significant relationship between flow and sports performance among club Hockey players in North-East zone, Nigeria.

Flow is an optimal psychological state that occurs when there is balance between perceived challenges and skills in an activity (Csikszentmihalyi, 1990). It is a state of concentration so focused that it amounts to absolute absorption in an activity. Research on flow in sport and exercise has increased in recent years (example Jackson, 1992; 1995; Jackson, Kimiecik, Ford and Marsh, 1998; Jackson & Marsh, 1996; Kimiecik & Stein, 1992) and Csikszentmihalyi (1992) has encouraged application of flow theory to physical activity settings, which is where some of his initial research into flow began (Csikszentmihalyi, 1975). Theoretically, flow as an optimal mental state, would be expected to be associated with optimal athletic performance as well as providing an optimal experience.

Flow is generally viewed as a peak performance state and there is some support for this assumption (example, Jackson & Roberts, 1992; McInman & Groul, 1991, Correlation support for a positive relationship between ratings of flow performances of peak performance was obtained by Jackson and Roberts (1992) who asked athletes to reflect on their best performance and found flow characteristics to be endorsed. McInman and Grove 1991; Privette and Bundriek (1991) have

concluded that flow and Peak performance shared many similar characteristics, but should still be viewed as conceptually distinct. Privette and Bundrick (1991) distinguish between the two concepts by defining flow as an intrinsically rewarding experience and peak performance as optimal functioning. Jackson (1996) distinguishes between the two concepts by describing peak performance as a standard of accomplishment, while flow is described as a psychological state. According to Jackson, et al, (1998) correlation support was obtained for a relationship between self-reported flow state and ratings of perceived success with both measures taken after competitive event. Beyond identifying any associations between flow and peak performance, it is important to ascertain whether it is possible to promote the state of flow, that is there is a set of conditions or factors that are positively associated with athletes being able to attain flow?. A preliminary study that examined this question (Stein, Kimiecik, Daniels & Danies, 1995) failed to identify any substantive relationship between the psychological constructs, goals, competence and confidence, and statement of flow in three different sport settings during a weekend tennis tournaments, College basketball activity classes and amateur senior golf. Jackson et al (1998) did find associations between flow and three psychological variables: intrinsic motivation (Positive), perceived ability (positive), and cognitive anxiety (Negative) in general, the predictions made regarding the expected relationships between the factors assessed in this study were well-supported for example, where positive relationships were expected between flow and dimensions of the self-concepts and psychological skills measures, these were mostly found.

Conclusion

Data were analyzed using descriptive statistics of frequency count and percentage to describe the demographic information of respondents and Pearson Product Moment Correlation Coefficient was used to test the hypotheses at 0.05 level of significance. Results showed that there was significant relationship between flow, psychological skills and sport performance among club Hockey players in North-East Zone, Nigeria and no significant difference in flow, self-concept, psychological skills and sport performance between male and female club Hockey players in North-East Zone, Nigeria. Based on the results, it was recommended among other things that self-concept is independent of performance, coached should therefore be aware that self-concept is not hindrance to sport performance among club Hockey players in North-East Zone, Nigeria, and should therefore not place too much emphasis on it. Sport Psychologists should be attached to all competitive sports to enable them disseminate knowledge or factors associated with the attainment of flow which is an important goal for athletes interested in the quality experience and performance.

In summary the results of the study, concluded that; Flow and sport performance are positively related and will enhance performance among club Hockey players in North-East Zone, Nigeria; Sport performance is independent of self-Concept among club Hockey players in north-East Zone, Nigeria.

Recommendations

Based on the result of this study, the following recommendations were made:

1. If level of flow is high among athletes performance will also be high. Coaches should therefore ensure that their players attend a high level of flow during sport performance through organized competitions.
2. Self-Concept is independent of performance, coached should therefore be aware that self-concept is not hindrance to sport performance among club Hockey players in North-East Zone, Nigeria, and should therefore not place too much emphasizes on it.

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