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FLOW STATE BETWEEN OPEN AND CLOSED SKILL ATHLETES: A PSYCHOLOGICAL PROBE

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Abstract

The present study was conducted to examine the flow state between open and closed skill athletes. To obtain required data, the investigators had selected one hundred and twenty (N=120) male university level athletes of 19 to 25 years of age to act as subjects. They were divided into two groups; sixty (n=60) open skill athletes and sixty (n=60) closed skill athletes of various games and sports. The purposive sampling technique was used to select the subjects. All the subjects, after having been informed about the objective and protocol of the study, gave their consent and volunteered to participate in this study. To measure the level of dispositional flow state of the subjects, the flow state battery constructed by Jackson & Eklund (2004) was administered. The‗t' test was applied to find out the significant differences between open and closed skill athletes with regards to dispositional Flow Scale-2. To test the hypothesis, the level of significance was set at 0.05. The results revealed significant differences between open and closed skill athletes on the sub-variables**;** challenge skill balance, action awareness merging, unambiguous feedback, autotelic experience and overall dispositional flow scale-2. It is further revealed that the open skill athletes have performed significantly better than closed skill athletes on the above said sub-variables. However, no significant differences were found with regard to the sub-variables; clear goals, concentration on the task at hand, sense of control, loss of self-consciousness and transformation of time.

Keywords: Flow, Dispositional Flow State, Open and Closed, Skill, Athletes

INTRODUCTION

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 [1, 2]. Nonetheless, more research is needed to empirically examine the relationship between flow and performance in sport. To advance knowledge in this area, it is important to examine specific psychological constructs with theoretical relevance to optimal performance in order to understand what psychological processes might be contributing to quality of performance. The first and primary construct examined was flow. Flow is an optimal psychological state that occurs when there is a balance between perceived challenges and skills in an activity [3]. It is a state of concentration so focused that it amounts to absolute absorption in an act concentration so focused that it amounts to absolute absorption in an activity. Research on flow in sport and exercise has increased in recent years [4-10] has encouraged application of flow theory to physical activity settings, which is where some of his initial research into flow began. Based on their respective research findings, Jackson and Csikszentmihalyi have recently written a book describing flow in sport and how to attain this optimal mental state. Knowledge of factors associated with the attainment of flow is an important goal for those interested in the quality of athletes'experience and performance in competition [1, 3].

A flow experience during exercise can lead to high enjoyment, which, in turn, appears to play an important role in exercise adherence. Empirical research has substantiated this prediction [11]. Hence, an understanding of factors that promote flow states in exercise will inform the strategies of exercise practitioners who are interested in promoting enjoyment and adherence to exercise. In addition, flow leads to positive affective reactions, which they equate with enjoyment. Research has shown that each one of these dimension is part of the definition of flow [1, 3-10]. However, Jackson and Eklund (2004) have proposed that some of these flow dimensions can be more relevant than others, and for different kinds of athletes [7]. The challenge-skill ratio has been an important part of the definition of flow [3]. Thus, the challenge-skill balance, which is based on the challenge-skill ratio, seems to be of special importance. Since initial research on flow, there have been few studies concerning flow in athletes except for the work done by Jackson and Eklund, developed and revised the dispositional flow scale (DFS-2) to assess athletes' experience of the nine flow characteristics [7]. The athletes are asked about general experiences of the flow experience in a particular activity the athlete chooses. Another scale developed by the same authors is the flow state scale-2 (FSS-2), which assesses the flow state right after completing an activity. Also, they have suggested that experiencing flow states frequently when involved in a specific activity promotes the desire to perform the activity for its own sake. In other words, the activity becomes autotelic that is, the reasons for participation are grounded

in the process of involvement in the activity and not in attaining goals that are external to the activity. It appears that attaining flow during exercise may promote intrinsic motivation, which, in turn, has been shown to enhance persistence in participation.

A closed skill sport athlete basically knows when and how to execute the movements /skills, which are unlikely to change or influenced by external factors. Closed skill sports may include skills which are trained in a set pattern and have clear beginning and endings, such as athletics, swimming, bowling, gymnastics, shooting etc. Closed sports include skills which have the tendency to be self-paced and require focus on a relatively unchanged environment. Open skilled sports are sports which include execution of skills which are determined by the constant change of the environment. Skills are adapted to the instability of the environment which are predominantly perceptual and paced externally. These sports are such as football, tennis, badminton, handball and basketball etc. As a result, the present study was conducted to determine the significant difference between open and closed skill athletes with regards to dispositional Flow Scale-2.

Material and Methods

Subjects

To obtain data, the investigators had selected one hundred and twenty (N=120) male university level athletes of 19 to 25 years of age to act as subjects. They were divided into two groups; sixty (n=60) open skill athletes and sixty (n=60) closed skill athletes of various games and sports. The purposive sampling technique was used to select the subjects. All the subjects, after having been informed about the objective and protocol of the study, gave their consent and volunteered to participate in this study.

Table-1: A break-up of selected sample

Sr. No	A-Open Skill	Sample	B-Closed Skill	Sample
1	Basketball	20	Track and field	20
2	Handball	20	Swimming	20
3	Football	20	Gymnastics	20
		60		**60**

Tools

To measure the level of dispositional flow state of the subjects, the flow state battery constructed by Jackson & Eklund (2004) was administered.

Methodology

The flow scales are self-reported instruments designed to assess the construct of flow or optimal experience. The scale was designed and validated primarily in physical activity settings. Flow is construct that both excites and mystifies those seeking to understand and experience it. Because it represent those moments when everything ―come together‖ for the performer, it is a much sought-after state. The flow scales assess nine dimension of flow. From these dimension, two versions of the scales were developed. These two versions are Dispositional Flow Scale-2 (DFS-2) and Flow State Scale-2 (FSS-2). The Dispositional Flow Scale-2 (DFS-2) as self-reported instruments designed to assess flow experiences in physical activity. When administering the DFS-2, the recommended name for each questionnaire is Activity Experience Scale, respectively. These names reflect what is being assessed in general, without biasing respondents according to their understanding of the term flow. In order to focus the respondent on one selected activity when answering the scale, the following lead-in statement is included with these instructions. ―When participating in (name activity)….‖ The rating scale used for the DFS-2 is a 5-point linker scale, ranging from ―1‖ (never) to ―5‖ (always). The premise for using this type of assessment is that people who report more frequent occurrence of flow characteristics possess greater predisposition towards experiencing flow.

Statistical Analysis

The‗t‘ test was applied to find out the significant differences between open and closed skill athletes with regards to dispositional Flow Scale-2.

Results

Table-2

Significant differences in the Mean scores of open and closed skill athletes on the variable dispositional flow scale-2

	Open Skill =60		Closed Skill=60					
Variables	**Mean**	**SD**	**Mean**	**SD**	**Mean Difference**	**SEDM**	**t-value**	**Sig.**
Challenge skill balance	15.20	3.60	13.90	3.30	1.30	0.63	2.05*	0.041
Action Awareness merging	12.88	3.91	11.31	3.96	1.56	0.71	2.17*	0.031
Clear goals	14.73	4.73	14.15	5.19	0.58	0.90	0.64	0.521
Unambiguous feedback	13.25	3.67	11.76	3.45	1.48	0.65	2.27*	0.024
Concentration on the task at hand	15.78	3.13	15.01	3.39	0.76	0.59	1.28	0.201
Sense of control	13.20	3.67	12.15	3.63	1.05	0.67	1.55	0.123
Loss of self-consciousness	15.18	4.21	14.43	4.63	0.75	0.80	0.92	0.35
Transformation of time	14.30	3.88	13.61	4.05	0.68	0.72	0.94	0.34
Autotelic experience	15.60	4.15	12.80	5.05	2.80	0.84	3.30*	0.0012
Overall Dispositional flow scale-2	129.63	17.04	118.28	1.70	11.35	2.81	4.02*	0.0001

*Significant at 0.05 level (df=118)

A glance at table-2 shows the results of open and closed skill athletes with regard to the variable dispositional flow scale-2. It has been observed from the above results that statistically significant differences ($P<0.05$) were found between open and closed skill athletes. The open skill athletes have demonstrated significantly better on the sub-variables; challenge skill balance, action-awareness merging, unambiguous feedback, autotelic experience and overall dispositional flow scale-2 than the closed skill athletes. However, insignificant differences ($P>0.05$) were found with regard to the sub-variables; clear goals, concentration on the task at hand, sense of control, loss of self-consciousness and transformation of time.

Discussion

It is evident from the findings of table-2 with regard to dispositional flow state scale-2 that significant differences have been observed on the sub-variables; challenge skill balance, action awareness merging, unambiguous feedback, autotelic experience and overall dispositional flow scale-2 between open and closed skill athletes. While comparing the mean values of both the groups, it has been observed that open skill athletes have performed significantly better on challenge skill balance, action awareness merging, unambiguous feedback, autotelic experience and overall dispositional flow scale-2. The above results might be the outcome of sense of balance between the perceived demands of the activity and the skills, deep involvement of the players when the activity feels spontaneous and automatic, inherent feedback in the activity, enjoyable experience that is intrinsically rewarding and flow experience characteristics with in particular setting present in the open skill athletes which enabled them to outshine the closed skill athletes. However, no significant differences have been observed on the sub-variables; clear goals, concentration on the task at hand, sense of control, loss of self-consciousness and transformation of time between open and closed skill athletes. It can be safely summed up that both the groups were equally developed on the extent attitude of the players which enabled them to know exactly what they are going to do, focus on the activity, control over the demands of the activity without conscious effort, knows what is happening in mind & body and sense of time being distorted. These findings substantiate the assertion of Jackson et al. (1998) that the strongest associations between a self-report assessment of performance and flow state were with the autotelic experience and challenge skill balance dimensions of flow [9]. When considering the errors reported by the orienteering sample, several flow dimensions were significant predictors. One unexpected finding was a positive relationship between the flow dimension, unambiguous feedback, and number of errors made. It seems that feedback regarding performance, when it focused on errors

rather than positive aspects of performance, may have the unwanted effect of generating more errors. Csikszentmihalyi's (1990) descriptions of the feedback dimension of flow focus on the information provided by an activity that lets the person know about the progress he/she is making toward the desired goal. Whether this feedback is positive or negative has not been portrayed as critical; Csikszentmihalyi has highlighted rather the immediate and clear nature of the feedback in flow. Predictions made regarding the relationship of flow to performance were moderately well supported. Not surprisingly, the stronger relationships were found between flow and the self-reported performance levels. Future research should include more frequent flow assessments during performance to more thoroughly examine relationships between flow experience and performance. In tennis, one way to gather more information would be to apply a shortened flow measure that could be filled out during the breaks when swapping sides. Kimiecik and Stein (1992) proposed a two-part experience form to measure flow in golf, with the first questionnaire assessing possible antecedents of flow, such as confidence, concentration, expectations, and competency before playing the hole, whereas the second questionnaire examines key flow dimensions, such as challenges and skills, goals, concentration, and control to be filled out after the completion of the hole [10]. A similar approach in sports that offer time for athletes to complete flow measures during performance, such as tennis, would more clearly pinpoint antecedents of flow and provide more detailed information on the connection and interaction of flow and performance.

Conclusion

It is concluded from the above findings that significant differences were found between open and closed skill athletes on the sub-variables**;** challenge skill balance, action awareness merging, unambiguous feedback, autotelic experience and overall dispositional flow scale-2. However, insignificant differences were found with regard to the sub-variables; clear goals, concentration on the task at hand, sense of control, loss of self-consciousness and transformation of time.

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