



**MAKE A DIFFERENCE IN THE LIVES OF STUDENTS:
INVESTIGATION OF INTEREST AND SOCIAL SUPPORT IN
PHYSICAL EDUCATION SETTING**

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Abstract:

Background: Situational interest is believed to be critical in enhancing physical activity engagement among high school students. Besides, social support is associated with situational interest. The purpose of this study was to examine indicators of situational interest, and the relationship between social support and situational interest.

Methods: This study was done with high school students (N = 477) enrolled in physical education classes in Kenya. Data were analyzed using simple correlation, independent t-test, confirmatory factor analysis, and structural equation modeling.

Results: Regression results show that the five indicators predicted about 73% of the variance in situational interest. Confirmatory factor analysis support four indicators (optimal challenge, attention demand, exploration intention and enjoyment) of situational interest. There is no relationship between students' interest and gender. Situational interest is influenced with both teacher and peer support. Personal interest is associated with situational interest.

Conclusion: Students' physical activity motivation is associated with situational interest. Findings partially support previous studies that point to five indicators of situational interest. Establishing learning environment that uphold teacher and peer support might help trigger and maintain situational interest. Students' past experiences could influence situational interest.

Keywords: physical education, high school, interest

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1. Introduction

Despite evidence suggesting that increasing physical activity (PA) has health benefits, the global trends point to insufficient physical activity (PA) among adolescents (WHO, 2017). United Nations Educational, Scientific, Cultural Organization (UNESCO, 2017) has proposed the provision of quality physical education (PE) as a means of enhancing PA. However, efforts to increase PA engagement are often hampered with disinterest and low levels of interest among high school students. Researchers posit that interest, a positive psychological state that emerges from person-activity interaction (Chen, Darst, & Pangrazi, 2001), is arguably the reason for or against PA engagement. Notwithstanding, scientific findings point to connection between students' interest and PA engagement (Chen, Darst, & Pangrazi, 1999; Chen et al., 2001; Sun, Chen, Ennis, Martin, & Shen, 2008).

Every PE setting is unique and therefore studies examining students' interest should be interpreted in specific context. While numerous interest-based studies have been done in the USA and Western Europe, research focusing on developing countries remain scanty. Even though it has been hypothesized that there are five indicators of situational interest, findings have often been conflicting. Not all studies agree with Chen et al. (1999) that there are five indicators of situational interest. Also, other researchers have argued that situational interest is influenced with the social context (Deci, 1992) even though research on this suggestion is flimsy. To that effect, this study examined the indicators of situational interest. In addition, it investigated how teacher and peers support impact situational interest in PE setting, and the relationship between situational interest and personal interest.

2. Literature Review

2.1 Interest Theory

Interest is broadly categorized into personal and situational (Hidi 2006). Personal interest is individual's predisposition for PA or task that develops slowly over time, and has long-lasting effects on a person's knowledge and values. For example, a student with soccer experience in elementary and middle school is likely to exhibit personal interest when provided with soccer opportunities in high school. Situational interest is the appealing effect of an activity, and it is spontaneous, momentary, and prompted by the social environmental factors (Hidi & Renninger, 2006). In other words, situational interest emerges from the interaction between the person and task, within a specified social environment (Deci, 1992). In addition, situational interest is contextual and

content-specific (Hidi & Renninger, 2006; Zhu et al., 2009). Research findings point to interest as a multidimensional concept that emerge from person-activity interaction, social factors (such as teacher and friends-support), as well as prior knowledge and experiences (Chen, et al., 1999; Deci, 1992; Hidi, 2006).

Situational interest is a multidimensional concept associated with five indicators: novelty, optimal challenge, attention demand, exploration intention, and instant enjoyment (Chen et al., 1999; Sun et al., 2008). Novelty is the gap between the known and unknown information. According to interest theory, students tend to be interested in tasks which appear new to them. Repetitions tend to lead to boredom and eventual loss of interest. Optimal challenge is the difficulty of the task relative to one's ability (Zhu et al., 2009). Attention demand and exploration intention are mental aspects that motivate individuals to seek for more opportunities in given task. Instant enjoyment is the pleasure derived from participating in an activity.

Besides, several studies point to connection between situational interest and personal interest. For instance, Hidi (2006) hypothesize that development of interest is a four-phase process that comprise triggered and maintained situational interest, and developing and well-developed personal interest. However, Deci (1992) posit that social factors (such as social support) help trigger and maintain situational interest. In other words, supportive learning environment is associated with situational interest.

2.2 Social support

Social support refers to steps taken by significant others (specifically, the teachers and friends) that trigger and sustain positive behavior. Teacher and peer social support appear to be dominant especially in promoting PA interest and engagement (Duncan, Duncan, & Strycker, 2005). Teachers' support encompasses feedback, encouragement, structuring of programs, and modeling (Weiss, 2002). At least one study with high school students revealed correlation between teacher support and enjoyment (Ferrer-Caja & Weiss, 2000). Other researchers found association between perceived teacher support and motivation (Cox & Williams, 2008).

In addition, peers are formidable agents of socialization whose role in motivation is vital. For instance, Weiss (2002) discovered that perceived peer approval increased students' PA interest and engagement. Several studies have also revealed that peer support increases motivation towards PA (Hagger, et al., 2009; Prochaska, Rodgers, & Sallis, 2002). Studies found increase in students' interest whenever their peers joined them or watched them exercise (Duncan et al., 2005).

In summary, literature points to the multidimensionality of situational interest as well the association between teacher and peer support with situational interest. Even

though theoretically there is connection between social support and situational interest, empirical evidence is scarce. In addition, the examination of indicators of situational interest among high school students enrolled in PE in developing countries remains scanty. To the best of my knowledge, this was the first study examining situational interest and social support among students enrolled in PE in Africa. Investigation of indicators of situational interest and social support can help teachers establish learning environment that can increase motivation and PA engagement.

The overall purpose of this study was to examine indicators of situational interest, and the relationship between situational interest and social support. Specifically, the study examined how the five multidimensional indicators of situational interest (Chen et al., 1999). Secondly, this study investigated the relationship between teacher and peer support, situational interest, and personal interest in PE setting.

2.3 Hypothesis

- 1) There is no difference between boys and girls PA interest.
- 2) There are five indicators (novelty, attention demand, challenge, exploration intention, and enjoyment) of situational interest.
- 3) There is association between teacher and peer support with situational interest.
- 4) There is direct association between situational interest and personal interest.

3. Material and Methods

2.1 Participants

This study was conducted in five public high schools in Kenya. Participants were randomly sampled from high school students (N = 477, 251 boys & 226 girls) enrolled in PE courses. Demographic characteristics of students in public schools represent the entire population of the country. Whereas 9th and 10th graders have one 40-minute lesson per week, 11th and 12th graders have two 40-minute lessons per week. PE classes averaged approximately 50 students per class.

3.2 Measures

Data were collected using a 24-item situational interest scale (Chen et al., 1999); 5-item teacher-support scale, and 5-item peer social support scale; and 5-item personal interest scale. All items were measured on 5-likert scale (1 strongly disagree ↔ strongly agree 5). Sample item for situation interest is, "This activity is new to me" (1 strongly disagree ↔ strongly agree 5). Sample item for teacher social support is, "I felt supported by my physical education teacher during this activity" (1 strongly disagree ↔ strongly agree

5). Sample peer social support item is, “My physical education classmates listened to me during this activity” (1 strongly disagree ↔ strongly agree 5).

3.3 Statistical Analysis

A test for internal consistency was conducted for all the measurement subscales using Cronbach’s alpha (1951). The scales were reliable: situational interest $\alpha = .74$; teacher social support $\alpha = .78$; peer social support $\alpha = .77$; personal interest $\alpha = .78$. Descriptive statistics assessed the nature of the sample population. Data were analyzed using simple correlation, independent t-test, confirmatory factor analysis (CFA), and structural equation modeling (SEM). Independent T-test assessed the difference in boys’ and girls’ situational interest. CFA tested the five multidimensional indicators of situational interest. Structural equation model from SPSS Amos tested the structural relationship between situational interest, teacher support, peer support, and personal interest. The analysis included correlation, regression, and direct effects.

3.4 Ethics

Approval to conduct this research was obtained from the Institutional Review Board at the author's university and from the ministry of higher education in the country where the research was conducted. The school administration and PE teachers were contacted prior to the study and were briefed about the study. The main researcher briefed students about the research. Students who consented participated in the research. Questionnaires were administered immediately after PE lessons. The entire questionnaire took about 20 minutes to complete.

4. Results and Discussion

4.1 Teacher and peer support

Descriptive statistics point to higher perceived teacher social support for girls ($M= 4.13$, $SD = .77$) than boys ($M= 3.91$, $SD = .97$), and higher peer social support among boys than girls ($M= 4.07$, $SD = .86$; $M= 3.99$, $SD = .94$). However, results from independent T-test reveal insignificant difference between boys and girls perceived teacher social support ($t= 3.15$, $P> .08$). Notwithstanding, there is statistically significant difference between boys’ and girls’ perceived peer social support with boys reporting higher scores ($t= 10.07$, $P> .001$).

4.2 Gender Difference

Analysis from independent T-test found insignificant difference between boys and girls perceived situational interest ($t = .965$, $p > .774$). Results imply that the level of situational interest is not associated with gender.

4.3 Indicators of Situational Interest

CFA tested whether novelty, attention demand, exploration intention, enjoyment, and optimal challenge are indicators of situational interest. Initial component matrix results revealed that the five indicators could not fit on one factor, but rather fitted on two factors. Results from Varimax with Kaiser Normalization rotation test show that the five factors are potential indicators of situational interest even though they load on two factors. Enjoyment, novelty, and optimal challenge fitted on factor 1, whereas attention demand and exploration intention fitted on factor 2 (Check table 1).

Table 1: Varimax Rotation

	Component	
	1	2
Ch	-.373	.745
AD	.837	.024
Exp	.860	-.068
Nov	.186	.868
Enjy	.851	-.094

Notes: Ch = Optimal Challenge; AD = Attention Demand; Exp = Exploration Intention; Nov = Novelty; Enjy = Enjoyment

4.4 Regression Results

Regression outcome show that the five indicators explained about 73% of the variance in overall situation interest (Check table 2). Enjoyment, novelty, and optimal challenge explained approximately 47%, while attention demand and exploration intention accounted for 26% of the variance of situational interest.

Table 2: Total Variance Explained

Component	Total	Initial Eigenvalues		Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
		% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.391	47.813	47.813	2.391	47.813	47.813	2.339	46.778	46.778
2	1.271	25.424	73.237	1.271	25.424	73.237	1.323	26.460	73.237
3	.565	11.309	84.546						
4	.409	8.188	92.734						
5	.363	7.266	100.000						

4.5 Structural Equation modeling

Novelty was dropped from the final model (Check figure 1) due to low loading (.658). Results from the SEM revealed association between teacher social support and peer social support ($r = .572$). These results point to potential overlap between the two variables. Both the teacher and peer support have direct effect on situational interest (.360 and .306, concurrently).

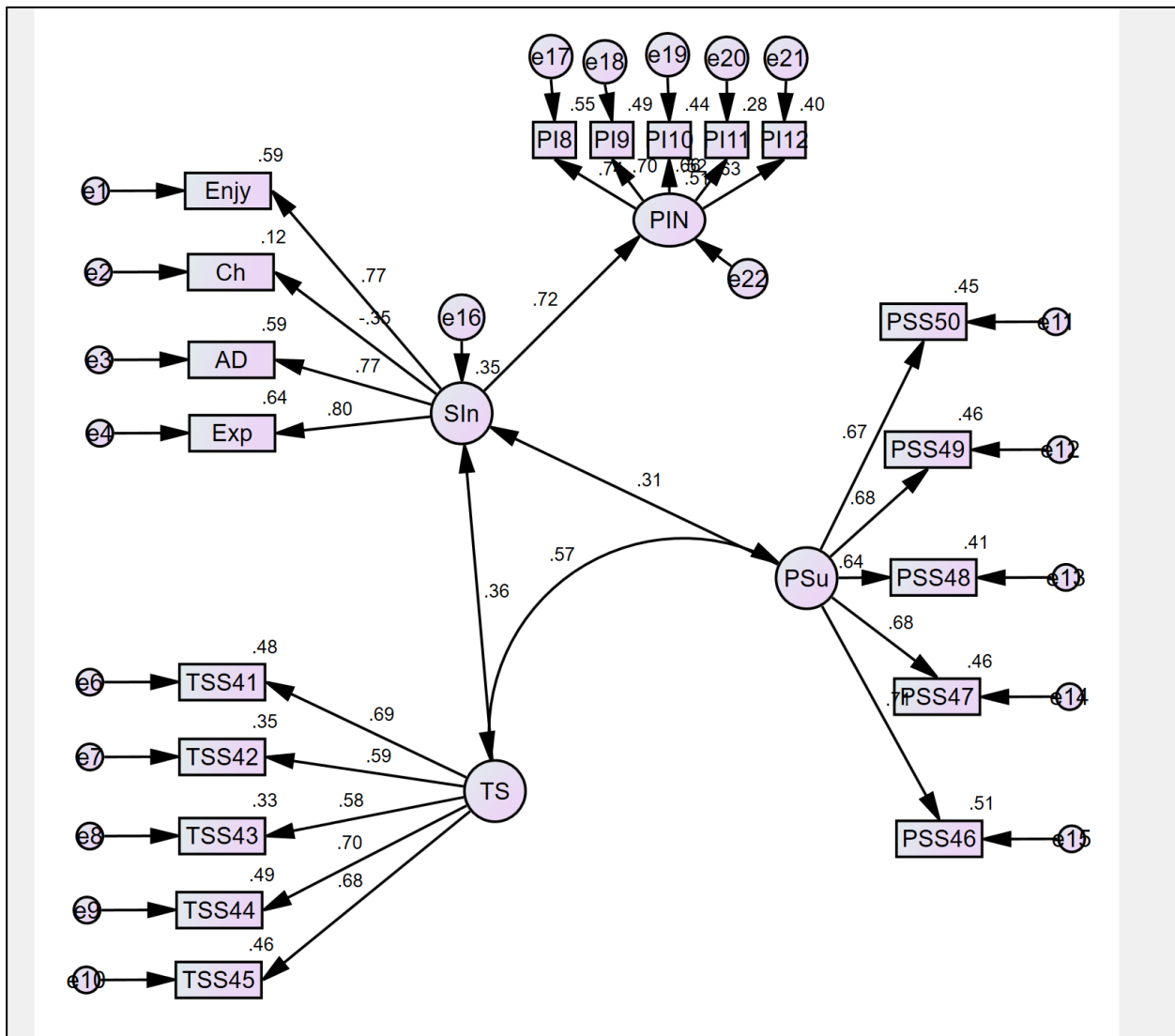


Figure 1: Structural Equation modeling: TS = Teacher Support; Sin = Situational Interest; Psu = Peer Support; and PIN = Personal Interest.

The standardized direct (unmediated) effect of teacher support and peer support on situational interest are .360 and .306 concurrently. Due to the direct effect of teacher support on situational interest, when teacher support goes up by 1 standard deviation, situational interest goes up by 0.36 standard deviations. When peer support goes up by

1 standard deviation, situational interest goes up by 0.306 standard deviations. This is in addition to any indirect effect that teacher support may have on situational interest.

Even though results from SEM did not support direct effect of situational interest on personal interest, regression outcome revealed situational interest as a strong predictor of personal interest ($r = .717$). In other words, when situational interest goes up by 1 standard deviation, personal interest goes up by 0.717 standard deviations. Regression test was done to assess the relationship between the hypothesized indicators (exploration intention, attention demand, optimal challenge, and enjoyment) and overall situational interest.

All the indicators were positive predictors of situational interest, except challenge which had a negative relationship with situational interest (Check table 3).

Table 3: Standardized Regression

			Estimate
PIN	<---	Situational interest	.717
Exp	<---	Situational interest	.799
AD	<---	Situational interest	.768
Ch	<---	Situational interest	-.348
Enjy	<---	Situational interest	.767

Notes: PIN = Personal Interest; Exp = Exploration Intention; AD = Attention Demand; Ch = Optimal Challenge; Enjy = Enjoyment

4.6 Model fit

Goodness of fitness statistic tested the structural relationship between situational interest, teacher support, peer support, and personal interest. The model fit met the threshold for statistical significance $\chi^2 (356, n = 477) = 357.081, p < .001, RMSEA = .054, RMR = .055, GFI = .922, TLI = .921$.

5. Recommendations

Low loadings of novelty suggest a probable issue with the sub-scale. Future studies could re-examine the items testing novelty with the view of addressing their relevance to situational interest. Based on the correlation between teacher and peer support, it is not possible to determine this reciprocal relationship. Future studies should investigate the effect of teacher support on peer support and vice versa. The structural relationship between situational interest, teacher and peer support, and personal interest point to the need for educators to design courses in a way that will support this relationship. It

is recommended that whenever teachers plan their content and instructional strategies, they should incorporate optimal challenge, attention demand, exploration intention, and enjoyment. Teachers should also consider students' personal interest as this is a reflection of their experiences and entry behavior.

6. Conclusion

This study partially supports previous findings which have attributed situational interest to the five multidimensional indicators (Chen et al., 1999; Otundo & Garn, 2016; Sun et al., 2008). Findings from this research are important and relevant, especially to PE teachers all over the world. It points to the role played by the PE teachers in enhancing students' interest and engagement in PE. Indicators of situational interest are optimal challenge, attention demand, exploration intention and enjoyment. From the study, we draw a conclusion that the low levels of situational interest could be attributed to learning environment that does not motivate students. When teachers create learning environment that support the four indicators of situational interest, then students' situational interest and engagement is likely to be improved.

The study also revealed connection between teachers' social support and peer social support with situational interest. Pedagogical approaches that are characterized by teacher and peers support have an impact on perceived situational interest. Besides, there is reciprocal relationship between teacher and peer support. The ultimate goal of motivation is to enhance PA engagement.

This study had a few limitations. Being a cross-sectional study, it was not able to determine the causal relationships. Secondly, the data was obtained through self-report questionnaire which is sometimes biased. Future studies might consider conducting an experimental study to determine the causal relationship.

About the Author

Joseph O. Otundo is a visiting professor at Southeastern Louisiana University teaching courses in health studies (including health instruction). His research is focused on motivational issues in physical activity and pedagogical aspects of health studies. His scholarship is published in a variety of journals and presented at local and national conferences especially in the USA. Joseph has over fifteen years of teaching health and physical education at all school levels (high, middle and elementary) and universities.

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