EFFECT OF TWO MODE SPORT SKILL TRAINING
PROGRAMME ON THE SELF-PERCEPTION OF IN-SCHOOL
ADOLESCENTS IN OSUN STATE, NIGERIA

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Abstract:
The purpose of the study was to examine the effect of sport skill acquisition in two
selected sports on the self-perception of in-school adolescence. Experimental research
design was adopted for the study. The Physical Self-Perception Profile (PSPP, Fox &
Corbin, 1989) was administered on 160 participants who took part in an eight week
structured exercise intervention using the pre-post-test method. The mean and
standard deviation of the pre and post treatment PSPP score of male and female
participants in basketball, badminton and control were revealed (\( \bar{x} = 96.50 \pm 12.7 \); \( \bar{x} = 
80.58 \pm 17.49 \); \( \bar{x} = 73.83 \pm 17.84 \)) and (\( \bar{x} = 100.68 \pm 8.94 \); \( \bar{x} = 95.71 \pm 7.15 \); \( \bar{x} = 73.74 \pm 17.89 \)),
respectively. A Two Way Analysis of Variance (ANOVA) was used to test for difference
among means the result revealed significant effect in the pre and post treatment sport
groups (<0.05). To determine the location of the significant effect, a post hoc analysis
was carried out (<0.05). The study concluded that basketball and badminton skill
training had a significant effect on the self-perception of participants irrespective of sex
and age

Keywords: sport skill, self-perception, gender, in-school adolescent; identity

1. Introduction

Today sport is a topic that interest and engage many people especially adolescents,
sport consists of training, and games, competition and display. Sport’s unique and
universal power to attract, motivate and inspire, makes it a highly effective tool for engaging and empowering individuals. Adolescents who participated in sport could use their energy, feel the joy of movement and savour the feeling that they were a part of a social group. Participation in physical activity has a role to play in personal development; it improves physiological and mental functioning and gives rise to feelings of physical, psychological and social competence.

Participating in sports and physical activities is more likely to enhance balance physical development, expand skill development opportunities and encourage sport participation that maximizes lifelong fitness and well-being. Physical activity (exercise) is a proven way to increase self-esteem, being involved in physical activity is one way for adolescents to cope with the changing time in their life. Especially during puberty, this is regarded as a period of major transition in forming a positive or negative attitude towards one’s self-esteem and body image among adolescents. Adolescents’ assessments of their self-worth are based on the judgments they imagined others makes of them. Involvement in physical activity, exercise and sport promotes psychological well-being researchers have been particularly interested in the psychological well-being of adolescents, as the period is associated with an increase in self-consciousness and an increased likelihood to be self-critical.

The Eriksonian-Marcia Identity theory was used to guide this research. The theory is a developmental approach to ego identity in which identity is seen as a self-structured construct that developed through quantitatively different stages. As an inner structure, ego identity comprises both how experience is handled and what experiences are considered important (Marcia, 1993a). Like all social psychological constructs, identity has its own functional purpose, the five most common functions of identity include; providing the structure for understanding who one is, providing meaning and direction through commitments, values and goals; providing a sense of personal control and free will; striving for consistency, coherence and harmony between values, beliefs and commitment; and enabling the recognition of potential through a sense of future possibilities and alternative choices. According to Erikson (1959), identity formation is a central developmental task in adolescence, and it provides a person with the sense of sameness and continuity across time and place. According to Fadjukoff (2007), the Eriksonian-Marcian research tradition emphasizes the developmental perspective and research tradition on self-concept, ideal self-concept and self-esteem and identity formation as one of the most significant issues faced during late adolescence. Empirical researches also indicated that, identity achievement status reflects the epitome of adolescent mental health, adjustment, self-esteem and is a predictor of positive social and psychological outcomes such as positive psychological well-being (Waterman,
The implication/application of this theory is that sports are vehicles of identity, providing people with a sense of difference and categorizing how they are like some people and different from others. Individuals are able to develop a strong sense of self; a sense of belonging; and many opportunities to develop friendships which contribute to identity formation. Participation in physical activities, exercise or sports contributes to self-assessment and organized activities provide the opportunity for adolescents to look at themselves and gain an understanding of “who they are” (Hensen, Larson, & Dworkin, 2003). While engaging in an activity and gaining these understanding participants are able to express and refine their identity and help to improve self-esteem, increase self-consciousness.

Each period of human development brings with it new challenges and opportunities for personal growth. Adolescents have to manage biological, psychological, educational and social role changes all at the same time. In late adolescence, the roles of adulthood must be addressed in almost every area of life (Bandura, 2001; Geldard & Geldard, 2004; Louw & Louw, 2007).

Self-perception (physical self-concept) may be viewed as a sub-set of global self-concept and according to Sirus Alipur, Nezhad & Zaheri (2009) self-perception influences the individual’s behaviour and in turn, the way an individual perceives himself or herself. It is also viewed as the evaluative element of self-concept, and a sub-set of global self-esteem, psychological well-being, health and life (Fox, 1990; Fox, 1997; Fox, 2000a). Fox & Corbin (1989) developed a Physical Self-Perception Profile (PSPP), which describes self-perception in terms of five categories. Sport competence refers to perceptions of sporting ability, ability to learn sport skills and confidence in a sporting environment. Physical conditioning includes perceptions of level of physical condition, stamina and fitness, ability to maintain exercise and confidence in the exercise setting. Body attractiveness refers to perceived attractiveness of physique, ability to maintain an attractive body and confidence in appearance. Physical strength includes perceived strength, muscle development and self-assurance in situations requiring strength. Physical self-worth or self-esteem is a general measure of physical self-perception, which includes global feelings of happiness, satisfaction, pride, respect and confidence in the physical self. The PSPP is an indicator of psychological health and well-being of particular relevance in various health, physical activity, and exercise and sport settings.

Many research studies involving randomized controlled trials addressing the effect of exercise on physical self-perceptions have produced sound evidence that regular physical activity can improve physical self-perceptions in various age groups and contexts (Fox, 2000b; Fox, 2000). Physical activities researched in relation to
physical self-perception have included various team and individual (Asci, Kin, & Kosar, 1998; Chow & Tsang, 2001; Fox 2000b; Fox, 2000c; Newsham, 2001; Goni & Zulaika, 2000). The intimate relationship between exercise and physical self-perception in elite sport has been demonstrated in a one year study following the Sydney Olympics where athletes in transition out of competition showed decreased physical self-esteem and global self-esteem during an adjustment stage of six months before a period of adaptation and increase in physical and global self-esteem (Stephan, Bilard, Ninot, & Delignieres, 2003). PSPP norms also show that males generally have higher perceptions of body attractiveness, physical conditioning, sport competence and strength than females (Hayes, Crocker, & Kowalski, 1999; Karaca, Caglar, & Cinemre, 2009). Maschette and Sands (2001) research findings indicated that males and females focus on different areas of the body after exercising.

Moreno & Cervello (2005) in a study on the effect of gender and level of physical activity involvement on physical self-perceptions in Spanish adolescents showed an effect of interaction between gender (Males females) and physical practice (practice and non-practice), indicating that males and females that did sport had higher scores in sport competence, body attractiveness, physical condition and physical strength than both males and females that did not.

Jones, Polman & Peter (2009) reported that males scored significantly higher than female on all physical self-perceptions and physical self-worth in a study carried out to determine the physical self-perceptions of adolescents in year 8, 9 and 10 in independent schools, state comprehensive schools and specialist sport colleges in England.

One study that stands out is a Swedish study looking at the effect of a 6-month exercise intervention on self-perception in non-physically active girls ranging from 13-20 years. Post-hoc univariate analysis among study completers, however found a significant effect of the intervention on 3 out of 5 dimensions of self-perception assessed (Lindwall & Lindgren, 2005).

The connection between exercise and self-esteem has reported in a meta-analysis of 37 randomized controlled studies of all ages and conducted exercise as a valuable tool for increasing and maintaining physical self-worth and other physical self-perception (Fox, 2000). According to Raustorp, Stahle, Gudasic, Kinnunen, & Mattsson, (2004) the effect was greater in children and middle-aged adults and was shown in males and as well as females.

Fortes, Ninot & Delignieres (2004) maintained that exercise improves physical self-perceptions such as physical self-worth, physical condition, sport competence, physical strength and attractive body. Moreno and Cervello (2005) reported in their
Aderonmu, Kehinde Adebayo
EFFECT OF TWO MODE SPORT SKILL TRAINING PROGRAMME ON THE SELF-PERCEPTION OF IN-SCHOOL ADOLESCENTS IN OSUN STATE, NIGERIA

study that adolescent that did sport showed better scores in physical self-perceptions than those that did not do sports; after analysing the differences obtained for different level of physical activity involvement, the results show that those who participated in physical activity more than 3 times a week shows higher scores in sport competence, physical condition and physical strength than those who participated in physical activity once a week or less. These investigations showed that involvement in physical activity is positively related to well-being, mood, physical self-perceptions and mental health (Oweis and Spinks, 2001). In a related study carried out in England on adolescent self-perceptions, Jones, Polman and Peter (2009) significant differences on all domains were reported. In another study Moreno and Cervelló (2005) reported that males that did sport showed better scores in physical self-perceptions than the other analysed groups (males and females that did not do sport, and females that did sport).

The resulting change in mental state of mind is one of the most common outcomes of an exercise programme where sport skills are learnt. Sport skills are specialized subsets of motor skills and the acquisition of sport skills expertise is both a product of development and a process for development, meaning that psychological development affects sport skill acquisition and that sport skill acquisition process results in psychological changes.

Some of the common desires of individuals who engage in sports are improvement within the physical, psychological and psycho-motor domains. Studies (Salokun, 1990, 1994; Griffin & Kirby, 2007; Temple & Stanish, 2008) seeking to establish the effects of sports participation on these variables are numerous globally; however, there is a paucity of such studies in Nigeria. While some have reported positive findings, a few others have yielded uncertain results especially with regards to sports like badminton and basketball. From the foregoing problems mentioned above, this study was conducted to investigate the effect of acquisition of sport skills such as bouncing, passing and dribbling in basketball; forehand serve and forehand overhead clear in badminton on the psychological well-being (self-perception) of adolescent boys and girls in Nigerian secondary schools. This study was interested in investigating other issues generated by the problems stated above which gave rise the research question; Can the acquisition of skills in the game of badminton and basketball influence the self-perception of adolescent boys and girls? Also, the following hypothesis was formulated for this study; there will be no significant effect on the self-perception of the adolescents who participated in badminton and basketball skills training and adolescents who did not participate in skill training based on age and sex.

It is hoped that the findings of this study and the subsequent recommendations would be relevant in providing information about the relevance of active participation of
adolescents and other age categories in exercise as it has a lot of health and psychological benefits. Also, that the negative perception of parents and educational organization in Nigeria about active involvement in sports and physical education programmes, will be changed.

2. Methodology

2.1 Research Design
The study employed the pre-test and post-test experimental design. The population for this study consisted of all in-school adolescents in junior and senior secondary schools in Osun State. The sample size comprised 160 students. The stratified random (intact-class) sampling technique was adopted in the selection of samples for the study. A Local Government Area (LGA) was selected randomly using balloting method. Out of the nine schools in the LGA, two co-educational secondary schools were selected purposively for the study. The purpose sampling technique was used because of their proximity to the intended facilities and the multi-representation of students from different background and age brackets which fully represents the target participants drawn from the Junior Secondary School class 2 (JSS2) and the Senior Secondary School 2 (SSS2) classes respectively. The experimental groups were 40 participants each from Atakumosa High School Osu (Basketball), and Ibodi Grammar School, Ibodi (Badminton). The control groups (80 boys and girls) were 40 participants each from another intact-class from the same selected schools. Sex and age differentiation were put into consideration in the selection and these two classes needed for the study. All participants were novice or adolescents that have no knowledge of the skills of the selected sports. The research instrument for the study was the Physical Self-Perception Profile (PSPP) designed by Fox and Corbin (1989) to measure the perception of individuals in sport setting. The instrument provide a rich multi-dimensional assessment of the self-perception within the physical domain and uses 30-items under 5 separate subscales each containing 6 items. Internal consistency values for the PSPP scale have ranged from $r = .81$ to $r = .92$ for males and females (Fox, 1990). Stability of responses on the PSPP have been indicated and acceptable to good test-retest reliability found to be between $r = .74$ to $r = .89$ after 23 days from $r = .74$ to $r = .92$ over a 16-week period, and from $r = .81$ to $r = .88$ over a 23 day period. (Fox, 1990; Fox and Corbin, 1989; Kowalski et al 2003). The PSPP was checked for test re-test reliability and returned a correlation coefficient of $r = 0.807$. The results are sufficient enough to conclude that instruments were adjudged valid and reliable for the present study since they all showed consistency with values above average (i.e. 0.5 mid-values). The PSPP was
administered to the participants before (pre-test) and after (post-test) treatment for the study. Inferential statistics such as the t-test, factorial design (sex and age), analysis of variance (ANOVA) through SPSS, was used to treat data collected. The level of significance for all analysis was at 0.05.

3. Results

To test the hypothesis that there will be no significant effect of badminton and basketball skills training on the self-perception of the adolescents based on age and sex. The students’ responses to pre and post treatment (PSPP) were scored, the scores were used to generate pre and post training physical self-perception scores for the control and experimental groups based on their ages and sex. Attempt was also made at determining the difference in the mean physical self-perception scores of the groups in each of the pre and post training test using ANOVA. The result is summarized in Table 1.

**Table 1**: Descriptive statistics showing pre and post-treatment physical status based on sex

<table>
<thead>
<tr>
<th>Groups</th>
<th>Sex</th>
<th>N</th>
<th>Pre-Treatment</th>
<th>Post-Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>SD</td>
</tr>
<tr>
<td>Basketball</td>
<td>Male</td>
<td>22</td>
<td>96.5000</td>
<td>12.70077</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>18</td>
<td>82.7778</td>
<td>15.03156</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>40</td>
<td>90.3250</td>
<td>15.26919</td>
</tr>
<tr>
<td>Badminton</td>
<td>Male</td>
<td>24</td>
<td>80.5833</td>
<td>17.48768</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>16</td>
<td>88.8750</td>
<td>10.69501</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>40</td>
<td>83.9000</td>
<td>15.53293</td>
</tr>
<tr>
<td>Control</td>
<td>Male</td>
<td>46</td>
<td>73.8261</td>
<td>17.83667</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>34</td>
<td>76.7941</td>
<td>14.48882</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>80</td>
<td>75.0875</td>
<td>16.46492</td>
</tr>
<tr>
<td>Total</td>
<td>Male</td>
<td>92</td>
<td>81.0109</td>
<td>18.86767</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>68</td>
<td>81.2206</td>
<td>14.52311</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>160</td>
<td>81.1000</td>
<td>17.10647</td>
</tr>
</tbody>
</table>

Table 1 presents means and standard deviations of pre and post-treatment physical self-perception score of male and female participants in basketball, badminton and control. The means for males at pre- treatment and post- treatment were ($\bar{X} = 96.50 \pm 12.7$; $\bar{X}$ =
Aderonmu, Kehinde Adebayo  
EFFECT OF TWO MODE SPORT SKILL TRAINING PROGRAMME ON THE SELF-PERCEPTION OF IN-SCHOOL ADOLESCENTS IN OSUN STATE, NIGERIA

80.58 ± 17.49; \( \bar{X} = 73.83 \pm 17.84 \) and \( \bar{X}=100.68 \pm 8.94; \bar{X} = 95.71 \pm 7.15; \bar{X} = 73.74 \pm 17.89 \) respectively. The means for pre and post- treatment females in physical fitness of basketball, badminton and control groups were \( \bar{X}= 82.78 \pm 15.03; \bar{X} = 88.88 \pm 10.70; \bar{X} = 76.79 \pm 14.49 \) and \( \bar{X} = 95.72 \pm 5.93; \bar{X} = 97.81 \pm 8.72; \bar{X} = 76.79 \pm 14.49 \) respectively.

To determine if there was significant effect badminton and basketball skills training on the self- perception of male and females ANOVA was used to test for difference among means. The result is summarized in Table 2.

Table 2: Two-way Analysis of Variance showing the difference in each of basketball, badminton and control groups’ physical self-perception based on sex

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>Corrected Model</td>
<td>9306.038</td>
<td>20723.236</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Intercept</td>
<td>972804.602</td>
<td>1139537.490</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Sports</td>
<td>6010.677</td>
<td>19330.443</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Students’ Sex</td>
<td>23.657</td>
<td>.155</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Groups * Students’ Sex</td>
<td>2696.320</td>
<td>444.147</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>1098882.000</td>
<td>1237405.000</td>
<td>155</td>
<td>160</td>
</tr>
<tr>
<td>Corrected Total</td>
<td>46528.400</td>
<td>46637.444</td>
<td>154</td>
<td>159</td>
</tr>
</tbody>
</table>
* Sig = P < 0.05

Table 2 shows effect of skill training in Basketball and badminton on the students’ physical self-perception. Significant effect was noticed in pre and post- treatment sports groups (F = 12.43; P < 0.05, F = 57.44; P < 0.05). The result however did not show any significant effect of training on sex at both pre and post- treatment (F = .098; P > 0.05, F = .001; P > 0.05). To determine the location of the significant effect, a post hoc analysis was carried out. The result is summarized in Table 3.

Table 3: Post- hoc summary table showing effect of sport skills training on pre and post-treatment Physical Self-perception of participants

<table>
<thead>
<tr>
<th>(I) Students’ Groups</th>
<th>(J) Students’ Groups</th>
<th>Pre-Treatment</th>
<th>Post-Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Difference (I-J)</td>
<td>Std. Error</td>
<td>Sig.</td>
<td>Mean Difference (I-J)</td>
</tr>
<tr>
<td>Basketball</td>
<td>Badminton</td>
<td>6.4250</td>
<td>3.47637</td>
</tr>
</tbody>
</table>
Table 3 shows that though the groups of basketball and badminton were not significantly different at the post-treatment stage, significant difference was noticed in the basketball control and badminton/control groups. This observed difference confirmed that the duo of basketball and badminton groups recorded improvements in their self-perception profile after treatment; this improvement was mirrored when their scores were compared to the control. Thus, it could be concluded that basketball and badminton skill training do have a significant effect on the self-perception of the adolescent in this study. Hypothesis was therefore rejected.

4. Discussion of Findings

The result showed that there was a significant difference between respondents who participated in the badminton and basketball skill training than those who did not take part. However, the interaction effect of badminton and basketball skill training on the self-perception of participant based on sex and age was not significant. Findings of the present study correlate with other results on physical activity participation and self-perception. Lindwall & Lindgren (2005) reported a significant effect of exercise intervention on self-perception of adolescents (13-20 years) who took part in a 6-month exercise intervention programme on self-perception. In another study, aspect of self-esteem in the physical domain (self-perception) has been shown to have a positive relationship with physical activity, for example, physical self-worth, perceived body attractiveness and body image were researched and Biddle, Whitehead, O’Donovan & Naville (2005) did identify three studies which showed a small to moderate positive relationship between physical self-worth and physical activity in adolescent girls.

This result suggests that participation in organized skill training in badminton and basketball significantly influenced both boys and girls equally irrespective of their age in how they perceived themselves in all domains of self-perception. Moreno & Cervello (2005) in a study on the effect of gender and level of physical activity involvement on physical self-perceptions in Spanish adolescents, showed an effect of interaction between gender (males females) and physical practice (practice and non-
practice), indicating that males and females that did sport had higher scores in sport competence, body attractiveness, physical condition and physical strength than both males and females that did not.

Furthermore, the result of the analysis showed that adolescents who participated in the badminton and basketball skill training programme perceived their physical selves significantly more positively than their counterparts who did not participate in any sport skill training as all the domains of self-perception was affected. This is consistent with findings of Jones, Polman and Peters (2009) in a related study carried out in England on adolescent self-perceptions and significant differences on all domains were reported. Some researchers also reported that males generally have higher perceptions of body attractiveness, physical conditioning, sport competence and strength than females (Hayes et al 1999; Karaca et al. 2009). According to the study by Croaker, Eklund, & Kowalski (2000) physical condition and sport competence were significantly correlated to physical activity in 10-14 years old Canadian school boys. In Sweden, a controlled six month exercise intervention study on adolescent girls 13-20 years of age, using the PSPP scale, showed that perceived physical condition and perceived body attractiveness increased significantly (Lindwall, 2004). A number of studies have supported the existence of positive relationship between physical activity and self-perception among adolescents.

This result suggests that participation in organized skill training in badminton and basketball significantly influenced both boys and girls irrespective of age equally in their perception of their physical condition, physical strength, sport competence, body attractiveness and physical self-worth.

5. Conclusion

The present study established the fact that participation in basketball and badminton sport programs leading to the acquisition of basic skills resulted in improved self-perception and of adolescents. Furthermore, the study concluded that participation basketball & badminton skill training assist adolescents to identify the self they perceived to be theirs, as all the domains of self-perception (physical condition, sport competence, physical strength, body attractiveness and physical self-worth) were positively affected by the skill training programme.

6. Recommendation
Adolescents should be encouraged to acquire basic skill in sport so as to improve their self-image, and the sport program in whatsoever form should be to ensure the development of positive self-assessment in the participants. Individuals with low self-perception and distorted body image should be made to participant regularly in organized programs for sports e.g. basketball and badminton. This implies that the school authorities should encouraged through the provision of adequate facilities and equipment, mass participation of student in sport skill training program and sports that have the capacity to generate objective and observable feedback effects (e.g. badminton and basketball) should be concentrated on.

It is also recommended that the practical aspect of physical education and sport should be emphasized in school as this will induce an unconscious display in hidden characteristics in participants. As the true self of an adolescent is better seen in situation of practical participation in games and the Parent Teacher Association (PTA) and social institutions to enlighten the populace especially parents of the positive benefit that participation in exercise, physical activity and sport will impact on the physical, educational, emotional, social and psychological well-being of adolescents and to allow them participate fully in organized school sports.

References


