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To Study Physical Activity and Locus of Control Among Adolescents

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ABSTRACT

The present investigation aimed to study physical activity and locus of control among adolescents. Physical Activity is defined as any bodily movement produced by skeletal muscles that require energy expenditure (WHO, 2006). As regards the relation between physical activity and Locus of control, it has been associated with many different personality and situational variables. For example, Jambor & Rudisill (1992) related locus of control and sport choices and showed that children with external locus of control were more likely to participate in organized rather than non-organized, and individual rather than team sports. Thus the present study was designed with the objective of studying adolescent physical activity in relation to locus of control, and to study the relative contribution of the latter on adolescent physical activity. The sample comprised of 200 adolescent boys and girls in the age range of 16 -18 years, randomly selected from various senior secondary schools of Malerkotla city. The subjects were administered the Physical Activity Questionnaire for Adolescents (Kowalski, Crocker & Kowalski, 1997) and Levenson's Locus of Control (Vohra, 1990). Pearsons' Product Moment Correlation Coefficient Analyses revealed that Adolescents Physical Activity is positively correlated with Individual control while it is negatively correlated with dimensions of Locus of control i.e. (Powerful others, Chance control). Step-wise Multiple Regression Analysis revealed that dimension of locus of control i.e. (Individual control) are positively contributing to Adolescents Physical Activity and Chance control dimension of Locus of control is negatively contributing to Adolescents Physical Activity.

Keywords: *Physical activity, locus of control, Adolescents, Senior Secondary Schools*

Physical Activity

Physical Activity is defined by its duration, intensity, and frequency: duration refers to the length of participation in a single bout of physical activity. The duration of an activity is generally reported in minutes (the number of minutes of activity in each session) or the percentage of time spent participating in an activity. Intensity refers to "the physiological effort associated with participating in a special type of physical activity". The three degrees or categories of intensity

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of the physical activity (light, moderate, or vigorous) are based on the amount of energy that the individual expends in performing the activity. Frequency refers to the number of physical activity actions during a specific period. In other words, the frequency is described as the number of activity sessions per day, week, or a month. To measure the frequency of activity participation, the number of bouts per day or week or the percentage of children/adolescents being active on a given day is reported (Welk, Corbin & Dale 2000; Vanhees, Lefevre, Philippaerts, Martens, Huygens & Troosters 2005).

Locus of Control

Locus of control refers to the extent to which individuals believe that they can control events that affect them. Understanding of the concept was developed by Julian B. Rotter in 1954, and has since become an important aspect of personality studies. Those with a high internal locus of control have better control of their behaviour, tend to exhibit more political behaviors, and are more likely to attempt to influence other people than those with a high external (or low internal respectively) locus of control. Those with a high internal locus of control are more likely to assume that their efforts will be successful. Locus of control is conceptualized on a dynamic bipolar continuum spanning from internal to external. Internal locus of control is characterized by the belief that consequences are a result of one's own behavior. In other words, individuals who believe that their successes or failures result from their own behaviors possess an internal locus of control. Additionally, individuals with an internal locus of control typically engage in proactive and adaptive behaviors (Demellow & Imms, 1999; Peterson, Maier, & Seligman, 1993 & Rothbaum, Weisz, & Snyder, 1982).

Physical Activity and Locus of Control

Several studies have investigated effectiveness of culture on locus of control (LOC). Western studies of locus of control describe the value of an internal locus of control. In fact, Americans tend to have high internal locus of control scores compared to other cultures. For instance, Americans as compared to Chinese and Japanese (Hamid, 1994). While the U.S. tends to place high value on internal locus of control, Asian and other collective cultures tend to value an external locus of control. For example, in Japan an external locus of control is valued and the Japanese accommodate to other people's needs and thus relinquish the sense of personal control. The Japanese tolerate others trying to influence them (Ji, Peng, & Nisbett, 2000; Sastry, & Ross, 1998).

Schwartz & Kaslow (2000) examined cross-sectional and longitudinal correlates of attributional style in 841 adolescents. Maladaptive attribution style were associated with higher levels of depressive symptoms, greater suicidal ideation, lower self-esteem, greater levels of pessimism, fewer coping skills, lower levels of social competence, more conflict with parents, and lower levels of family and peer support.

An individual's locus of control can be oriented internally or externally. Individuals with an external locus of control view circumstances or situations in their lives as a result of external influences such as luck, higher beings, chance or predetermination. Through incidents in their lives, individuals characterized by an external locus of control begin to cognitively reinforce

behaviors by placing responsibility for outcomes on outside forces. For example, an athlete with an external locus of control tends to place responsibility for athletic injury on forces outside of him/her (Rotter, 1966).

In the Sport Psychology literature, locus of control has been associated with many different personality and situational variables. For example, Jambor et al., (1994) related locus of control and sport choices and showed that children with external locus of control were more likely to participate in organized rather than non-organized, and individual rather than team sports. Furthermore, Fejgin (1994) conducted a longitudinal study and demonstrated that sport participants were higher on internal locus of control than non-sport participants. Wong & Bridges (1994), surveying boys who took part in an American Youth Soccer Organization league, found that boys in an older division had higher internal locus of control than those in a younger division.

Objectives

1. To study adolescent's physical activity in relation to Locus of Control like (IC, CC and PO).
2. To study the relative correlation of Locus of Control on adolescent's physical activity.

Hypotheses

1. Adolescent's physical activity will be positively correlated with individual control while negatively correlated with chance of control and powerful others.
2. Individual control will positively contribute towards adolescent physical activity while chance control and powerful others will negatively contribute toward adolescents physical activity.

Methodology

(a) Sample: The present investigation, 200 school going adolescent boys (112) and girls (88) (age range 16 to 18 years) of various senior secondary schools of the city Malerkotla and Sangrur served as subjects.

(b) Instrument: The following two instruments were used in this study:

1. The Physical Activity Questionnaire for Adolescents (PAQ-A) - Kowalski & Crocker (1997)
2. Levenson's Locus of Control Scale – (Sanjay Vohra, 1990)

1. The Physical Activity Questionnaire for Adolescents (PAQ-A) - Kowalski & Crocker (1997): The PAQ-A is self – administered, 7 day recall questionnaires that measure general moderate to vigorous physical activity levels 0f adolescents in the age range of 14 to 19 years. PAQ-A provides a summary physical activity scored derived from eight items, each scored on a 5- point scale.

2. Levenson's Locus of Control Scale – (Sanjay Vohra, 1990): The scale consisted of 24 statements, 8 each for P- powerful others, C- chance control, and I- individual control. The statements are presented in a random order as follows;

P = Belief about control by powerful others. High scores indicate that other peoples control your outcomes.

C = Belief about chance control. High score indicate that unordered, chance, or random

events control your outcomes.

I = Belief about individual control. High scores indicate you believe that your outcomes are controlled by you - which your current situations and your rewards are direct outcomes of things you control.

Result and Discussion

(a) Pearson's Product Moment Correlation Analyses

Table no.1 showing the Pearson's Product Moment Correlation analyses of Locus of Control with Adolescent's Physical Activity.

Table-1

Sr. No.	Variables	Adolescents Physical Activity
1.	Powerful Others (PO)	-0.19**
2.	Chance Control (CC)	-0.30**

Numbers = 200, **p<0.01:*p<0.05

As hypothesized in the present study, Powerful others dimension of Locus of Control has significant inverse correlations with Adolescent's Physical Activity (-0.19, p<0.01). The results suggest that adolescents' whose perceive that their behaviour is controlled by other people viz. peers, family members and other authority people, are low participation in sports, exercise and physical activity. Research also indicates that physical activity behaviours are associated with locus of control, especially Health Locus of Control. Health Locus of Control (HLC) is the degree to which people believe that they themselves, powerful others or chance influence their health and sickness (Wallston et al.,1978; Taylor, 1999). People who believe they have control over their health or life events are called internals, in contrast to those who feel other people or chance is responsible for what happens to their health (externals). Literature indicates that internals are more likely to engage in wide range of health enhancing behaviours than those that believe in chance or social influence on health (Pitts & Phillips, 1998; Blaxter, 1990).

Chance control dimension of Locus of Control has significant inverse correlations with Adolescent's Physical Activity (-0.30, p<0.01), thus suggesting that physical activity is seemingly low when individual behavior is unordered and random events are thought to control ones behavior outcomes. Gabe & Calnan (1989) surveyed over 4000 adults in the south of England and found a significant positive correlation between the internal health locus of control dimension and exercise, and significant negative correlations between the powerful others and chance health locus of control dimensions and exercise. In the Sport Psychology literature, locus of control has been associated with many different personality and situational variables. Fejgin (1994) conducted a longitudinal study and demonstrated that sport participants were higher on internal locus of control than non-sport participants. Wong & Bridges (1994), surveying boys who took part in an American Youth Soccer Organization league, found that boys in an older division had higher internal locus of control than those in a younger division. Again this finding

tends support to the hypothesis regarding relationship of chance control with adolescent physical activity. Overall the correlations of locus of control with adolescent physical activity are providing support to the hypothesis.

(b) Step - Wise Multiple Regression Analyses

Table no.2 showing the step- wise multiple regression analyses for Individual Control (IC) and Chance Control (CC).

Table-2

Sr. No.	Variables	R	R^2	R^2 Change	β	p	F
1.	Individual Control (IC)	0.39	0.15	0.15	0.39	0.00**	35.41
2.	Chance Control (CC)	0.52	0.27	0.02	-0.14	0.04*	4.48

Numbers = 200, **p<0.01:*p<0.05

A perusal of table no. 2 suggests that individual control is positively contributing towards adolescent's physical activity (35.41, $p<0.01$; $\beta = 0.39$). Thus tending support to the hypothesis of the present research. People high on individual control hold the belief that ones' behavior outcomes are controlled by one-self – and ones' current situations and rewards are direct outcomes of things one controls. Thus individuals who own responsibility for their actions and think that their own actions determine outcomes actively indulge in those behaviours which add to their growth and well-being. Such adolescents do not ascribe external reasons for things happening to them, and undertake projects and maintain lifestyles where they can determine the results. Locus of control (Rotter, 1966) is conceptualized on a dynamic bipolar continuum spanning from internal to external. Internal locus of control is characterized by the belief that consequences are a result of one's own behavior. In other words, individuals who believe that their successes or failures result from their own behaviors possess an internal locus of control. Individuals with an external locus of control view circumstances or situations in their lives as a result of external influences such as luck, higher beings, chance or predetermination. Through incidents in their lives, individuals characterized by an external locus of control begin to cognitively reinforce behaviors by placing responsibility for outcomes on outside forces. For example, an athlete with an external locus of control tends to place responsibility for athletic injury on forces outside of him/her (Rotter, 1966). Additionally, individuals with an internal locus of control typically engage in proactive and adaptive behaviors (Demellow & Imms, 1999; Peterson et al., 1993 & Rothbaum et al., 1982).

Chance control dimension of Locus of Control is negatively contributing towards adolescent's physical activity (4.48, $p<0.05$; $\beta = -0.14$). These results support the hypothesis of the present study. Individuals high on chance control dimension hold a belief that behavior is unordered and random events control ones behavior outcomes. As evident in the present results, when individuals believe that they can control events that affect them, and that consequences are a result of one's

own behavior physical activity is more. Research also indicates that individuals with an internal locus of control typically engage in proactive and adaptive behaviors (Demellow & Imms, 1999; Peterson et al., 1993 & Rothbaum et al., 1982). Whereas when individuals believe that consequences are a result of some chance factors like luck or destiny, physical activity in adolescents is less. Individuals with an external locus of control might not take responsibility for their own actions or behaviors.

An extension of the concept of Locus of Control, i.e. Health locus of control (HLC) is the degree to which people believe that they themselves, powerful others or chance influence their health and sickness (Wallston et al., 1978 & Taylor, 1999). People who believe they have control over their health or life events are called internals, in contrast to those who feel other people or chance is responsible for what happens to their health (externals). Literature indicates that internals are more likely to engage in wide range of health enhancing behaviours than those that believe in chance or social influence on health (Pitts & Phillips, 1998; Blaxter, 1990).

Conclusion

Overall, some very interesting results have emerged from the present research, highlighting the correlation of with adolescent physical activity.

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