



The Impact of Physical Activity in the Control of Abnormal Behaviours of Iranian students

Nasrullah Nazari Alamdari¹, Kambiz Abdi^{2*}

¹Allameh Tabataba'i University, Iran; teamworkir1@gmail.com

²Ferdowsi University of Mashhad, Iran; ka.abdi@um.ac.ir

*Correspondence: Kambiz Abdi, ka.abdi@um.ac.ir

ABSTRACT

Objectives: The present study aimed to investigate the role of the leisure time physical activities in the control of abnormal behaviours of male high school students in Tehran (Iran).

Methods: A sample of 1715 students was selected based on multi-stage cluster random sampling using Cochran's formula. The research instrument was an ad hoc questionnaire of abnormal behaviours elaborated by the researchers and based on the previous literature. Its validity was confirmed by a group of fifteen university teachers of physical education, sociology, and psychology. The reliability was 0.85 using Cronbach's alpha. Descriptive statistics, inferential statistics, and independent samples t-test ($p \leq 0.05$) were used in the analysis of the data.

Findings: The results showed that participation in leisure time physical activities has a positive role in reducing all the three areas of abnormal behaviours (maladaptive behaviours, anti-social behaviours, and immoral behaviours).

Conclusions: Family leisure time planners, social and health policy makers are recommended to take supportive measures in order to incorporate sports activities in students' lifestyle.

KEYWORDS

Leisure Time; Physical Activity; Abnormal Behaviours; Students.

1. INTRODUCTION

Leisure time is an important issue in the education of the community especially the adolescents. If activities compatible with social norms are not intended for adolescents, this will lead to more abnormal behaviours. Numerous studies suggest that one of the causes of abnormal behaviours is that the young people cannot spend their leisure time in a proper way. Leisure time includes all the activities an individual does willingly after his/her disentanglement from occupational, familial, and social tasks and commitments [1]. Numerous studies show that if school and college students do not spend their leisure time in an optimal manner, they are more likely to approach social deviations. One way to spend leisure time effectively is to take part in sports activities. One of the important goals intended by sports activities is their social dimension. It is said that sports activities as a kind of leisure time activities are a main tool for social control and that they bring useful educational effects [2]. The first time to use sport as a social control mechanism dates back to nineteenth century in public schools of England [3]. There are numerous theoretical perspectives pointing to a direct contribution of physical activity to the control of social behaviours. A behaviour is considered as abnormal when it is incompatible with the regulations of the group.

In the studies related to sport and abnormal behaviours, two approaches are distinguished: functionalist and critical. Functionalists believe that exercise makes people learn the desired values. Contrarily, the advocates of critical approach maintain that exercise can transmit undesirable values [4]. Based on the critical approach, conflicts may occur in sportsman students. Some sports also increase the motivation for exerting force, cheating and predictive betting [5]. On the contrary, the functionalist approach believes that exercise has an inverse effect on antisocial behaviours.

Hirschi's social bonding theory is a social control theory. According to this theory, four elements can prevent deviant behaviours: attachment, commitment, involvement and belief. This theory explains that when the elements of the social bond are strong, there is little likelihood that individuals will commit antisocial behaviours [6]. Hawdon [7] replaces the concept of Hirsch's control theory with the pattern of everyday physical activities and says that participation in activities that are performed continuously is efficient in reducing the likelihood of engagement in deviant behaviour. Also Agnew [2] suggests that leisure time activities combined with the four bonds of Hirschi's social control theory can be effective in the reduction of the possibility of involvement in abnormal behaviours. According to this theory, various sports programs such as midnight basketball league in America [8], midnight basketball league in Australia, late night football league in Ireland are intended to reduce levels of antisocial behaviour in these nations. Studies have been done on the role of sport as

a social control mechanism, including the study of Ahmadi et al. [9], which showed that there is a relationship between the way to spend leisure time and delinquency. Anvaralkholy [10] has concluded that sports; especially martial arts; are enjoyed by a great number of juvenile offenders. That's because such activities raise the physical strength of a person with abnormal behaviours, and can create a distinctive position for that person in comparison to the others. Aliverdinia et al. [11] used Hirschi's social bonding theory to explain the relationship between sport and delinquency. The results indicated that, when comparing team and individual sports, there was not a significant relationship between team sports and delinquency.

Ebrahimi [12] concluded that sport doesn't have a role in crime prevention, and the factors should be sought in families and society. In his paper Agnew [2] assessed eight hypotheses regarding the relationship between leisure and delinquency. In his study, he took the data from a random sample of 600 adolescents. His findings showed that organized leisure activities are negatively associated with delinquency. The results showed also that certain types of activities, especially unsupervised activities with peers can be associated with antisocial behaviour.

Beeg et al. [13] did not find any support for the deterrence theory. He found out that young people who had a high level of involvement in sport at the age of 15 displayed more deviation at the age of 18, compared to those who had less involvement in sport at the age of 15. Also, Morris et al. [14] concluded that exercise and physical activity by themselves are unlikely to have a significant effect on the reduction of abnormal behaviour. They argue that an appropriate mechanism of social and personal development can positively affect behaviour. Moreover, Holder [15] in his study concluded that an active leisure life gives satisfaction and the two are directly related to each other. Furthermore, Wilson et al. [16] stated that the students who participated in sports like basketball and football were more likely to have behavioural problems.

In addition, Rutten et al. [17] studied the effect of organized exercise on the normative and non-normative behaviour of young sportsmen. A total of 260 male and female soccer players and competitive swimmers, completed the questionnaire of social desirability, pro-social and antisocial behaviours and coach-sportsman relations. Findings showed that the sportsmen who had a normal atmosphere in their exercise; and also a positive relationship with their coaches; had a low level of antisocial behaviours.

The results of Janssen [18] and Folino [19] respectively indicated the positive contribution of participation in physical activity in after-school time to the decrease in violence and increase in sense of security, and the decrease of behavioural problems such as anger and aggressiveness.

According to the results of the studies, we found that the results of research on the role of sport in criminal and anti-social behaviours have been inconsistent. Stress is mainly laid on crime prevention in the social and corrective policies and security measures of countries. If exercise is effective in preventing crime by reducing abnormal behaviours, this can be a good reason for the necessity and importance of the present study. In general, most studies have been done on the role of exercise in crime and anti-social behaviour. However, no research has been carried out about the role of sport in the control of abnormal behaviours in Iran. Research has been done mainly on the role of exercise on psychological characteristics and delinquency [20]. Therefore, the aim of the present study was to examine the role of leisure time activities in abnormal behaviour.

2. METHODS

2.1. Participants

The research population is all the male high school students in Tehran. The sample consists of 1841 students who were selected through multi-stage cluster sampling. They are from five different geographical areas of Tehran city (Table 1). Moreover, because of the multiplicity of the statistical community and the distribution of areas, five different geographical regions of Tehran were selected according to the number of students in each area.

Table 1. The population and sample based on the geographical areas of Tehran through Cochran's formula

Area	North	South	Center	East	West	Total
Population	9417	5930	8338	9073	15801	48559
Sample	369	361	368	368	375	1841

2.2. Procedures

After coordination with relevant departments of education in the five areas, the researchers distributed the questionnaires at schools. The confidentiality was ensured during the whole process. After collecting the questionnaires, 1715 questionnaires were used for analysis. The data obtained from the questionnaires showed that 810 students participated in sports activities. The students who participated at least in three sessions of sport activities per week were considered as physically active students. A total of 905 individuals in the sample didn't participate in these activities. The statistical analyses were carried on these two groups. The research instrument was an ad hoc questionnaire of abnormal behaviours elaborated by the researchers and based on the previous literature [20-22]. The

questionnaire contained 35 items. The responses are presented in a five-point Likert Scale (strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree). Table 2 shows the categories of the questionnaire. To assess the validity of questionnaire, the viewpoints of expert teachers of physical education, and sociology were sought, and the required changes were conducted. The reliability of the questionnaire was 0.85 (Table 3) using Cronbach’s alpha.

Table 2. Scales of Abnormal Behaviour and its categories

Maladaptive behaviours	escape from school – absenteeism - escape from home - theft- usurping others’ property in school and outside - thinking of escape from school - company with school leavers
Anti-social behaviours	smoking - company with smokers - drinking alcohol - company with drinkers - bad language – fight - damaging public property - damaging school equipment
Immoral behaviours	cheating on exam - relation with opposite sex - going in front of opposite - sex school - watching blue films and interest in them - studying sex-related material - annoying parents

Table 3. Reliability coefficients of research measure in the preliminary study on a sample of 30

The criterion of measure reliability	Cronbach’s alpha
Maladaptive behaviours	0.91
Anti-social behaviours	0.90
Immoral behaviours	0.82
Abnormal behaviour	0.85

2.3. Statistical Analysis

Descriptive statistics (frequency, percentage, mean, standard deviation, minimum, and maximum) were used to describe the variables. Kolmogorov–Smirnov test was used to check the normal distribution of the data. Independent T-test was used to compare means. All analyses were carried out with SPSS 23.

3. RESULTS

Table 4 shows the distribution of the frequency of the sample in terms of participants’ study fields. Most of the participants belonged to Science (62 students, 35.1%), while the lowest frequency appeared in Secondary first grade (277 students, 16.2%). (Table 4).

Table 4. Distribution of the frequency of the sample in terms of study fields

Statistical index/ study field	Frequency	Percentage
Humanities	417	24.3
Science	602	35.1
Math-Physics	419	24.4
Secondary first grade	277	16.2
Total	1715	100

Table 5 presents the distribution of the frequency of the sample in terms of participants age. The highest frequency appeared in 17 years old participants (717 students, 41.8%). The lowest frequency was observed in 19 years old group (34 students, 2%).

Table 5. Distribution of the frequency of the sample in terms of age

Statistical index/ age	Frequency	Percentage
15-year-old	50	2.9000
16-year-old	413	24.1
17-year-old	717	41.8
18-year-old	501	29.2
19-year-old	34	2
Total	1715	100

Table 6 illustrates the distribution of the frequency of the sample in terms of sports field. The highest frequency was observed in ball sports (1012 students, 59%). The lowest frequency appeared in track and field sports (30 students, 1,7%).

Table 6. Distribution of the frequency of the sample in terms of sports field

Statistical index/ sports field	Frequency	Percentage
Ball sports	1012	59
Body-building	276	16.1
Martial arts	276	16.1
Water sports	121	7.1
Track and field	30	1.7
Total	1715	100

Table 7 shows the distribution of the frequency of the sample in terms of active and non-active groups. In this case, the highest frequency was attributed to the non-active group (905 students, 52.8%). The lowest result was revealed in the active group (810 students, 47.2%).

Table 7. Distribution of the frequency of the sample in terms of active and non-active groups

Statistical index	Frequency	Percentage
Active in sports activities	810	47.2
Non-active in sports activities	905	52.8
Total	1715	100

Table 8 describes the three areas of abnormal behaviours (maladaptive behaviours, anti-social behaviours, and immoral behaviours). The higher score was found in anti-social behaviours (41.64), while the lower score was found in maladaptive behaviours (34.93).

Table 8. Descriptive statistics of the abnormal behaviours of the sample

Statistic/Variables	Number	Mean	Standard deviation	Minimum	Maximum
Maladaptive behaviours	1715	34.93	9.01	10	67
Anti-social behaviours	1715	41.64	10.34	12	60
Immoral behaviours	1715	38.50	9.7	14	64
Abnormal behaviours	1715	115.09	23.77	43	166

The Kolmogorov–Smirnov test showed that the data distribution was normal (Table 9).

Table 9. Kolmogorov–Smirnov test

Statistical index/variables	Z	sig	Significance level
Maladaptive behaviours	0.95	0.31	0.05
Anti-social behaviours	1.01	0.18	0.05
Immoral behaviours	1.21	0.10	0.05
Abnormal behaviours	1.02	0.18	0.05

In Table 10, abnormal behaviours of the active group and the non-active group are compared. Abnormal behaviours were significantly higher in the non-active group ($p=0.001$).

Table 10. Comparison of abnormal behaviours in active and non-active groups

Sig. level	Degrees of freedom	t	Mean difference	SD	Mean	Number	Groups
0.001	1713	17.48	18.52	22.96	106.34	810	Active group
				20.99	124.86	905	Non-active group

In Table 11, maladaptive behaviours of the active group and the non-active group are compared. Maladaptive behaviours were significantly higher in the non-active group ($p=0.001$).

Table 11. Comparison of maladaptive behaviours in active and non-active groups

Sig. level	Degrees of freedom	t	Mean difference	SD	Mean	Number	Groups
0.001	1713	13.29	5.51	9.38	32.34	810	Active group
				7.57	37.85	905	Non-active group

In Table 12, anti-social behaviours of the active group and the non-active group are compared. Anti-social behaviours were significantly higher in the non-active group ($p=0.001$).

Table 12. Comparison of anti-social behaviours in active and non-active groups

Sig. level	Degrees of freedom	t	Mean difference	SD	Mean	Number	Groups
0.001	1713	16.16	7.53	9.82	38.08	810	Active group
				9.42	45.61	905	Non-active group

In Table 13, immoral behaviours of the active group and the non-active group are compared. Immoral behaviours were significantly higher in the non-active group ($p=0.001$).

Table 13. Comparison of immoral behaviours in active and non-active groups

Sig. level	Degrees of freedom	t	Mean difference	SD	Mean	Number	Groups
0.001	1713	12.15	5.47	8.93	35.92	810	Active group
				9.70	41.39	905	Inactive group

4. DISCUSSION

Generally, with regards to the inferential findings of the research, we come to the conclusion that a group of students who are active in leisure time sport activities have earned fewer points in the three areas of maladaptive, anti-social, and immoral behaviours. It means that they have that they show less abnormal behaviours. This reflects the fact that exercise has a positive role in reducing abnormal behaviours. About the consistency of this research and other studies, enough care should be taken because past research has not been done directly on abnormal behaviour and the role of exercise. Therefore, with a little tolerance the findings of this study are consistent with Ravanbakhsh [21]. He concludes that those students who have parents and have no behavioural problems in the family have less abnormal behaviour than children without a parent or with family problems between parents. This difference can be due to the existence or lack of a competent parent as source of parental supervision. Since sports activities also have a monitoring or supervision source (coach), and are structured, this can account for the low rate of abnormal behaviours among the students participating in leisure time sports activities. In general, this research is directly or indirectly consistent with the findings of previous studies [2, 11-12, 17-19].

This can be explained in the formation of commitment, entertainment, and attachments that are the elements of social bonds of Hirschi [6]. When people become active and participate in organized sports, they have more engagement and commitment to the organization and community, and in consequence, they have less time to think in or to do abnormal behaviours. Moreover, participation in constant and continuous physical activity can prevent abnormal behaviours since it fills in the free time and engages the person. If leisure time is spent doing normal and social activity, no more time remains for abnormal behaviour. Routine activity theory [23] supports this argument.

Existence of monitoring and modelling of coach can be one of the factors of the occurrence of less abnormal behaviours among students active in leisure sports activities. Lack of participation in structured activities was due to a lack of observation and strong supervision and also lack of appropriate model paved the way for the abnormal behaviours. Existence of strong and powerful supervisor is supported by third element theory of Cohen & Felson about the occurrence of crime and abnormal

behaviour. On the other hand, participation in sports activities reduces abnormal behaviour by raising self-esteem. This is supported by Aliverdina et al. [11] that states that there is a negative, significant relationship between attachment and self-esteem and delinquency. Since psychological problems and lack of emotional discharge can be a cause for the occurrence of delinquency, participation in leisure time sport activity can have a predictive role in the control of abnormal behaviours.

In addition, the results of this study can be explained using the theory of social pressure. According to this theory, leisure time sports activity can be effective in reducing abnormal behaviours due to its discharge and the compensation of frustrations in everyday life. Also, the findings of this study are inconsistent with some studies mainly done on delinquency, like the study of Ebrahimi [12] that state that physical activity does not have a preventive role in delinquency. In explanation of this, it can be said that regardless of the fact that Ebrahimi's research deals with delinquency, it is different in the kind of its research population from the present study. Wilson et al. [16] suggest that students who participate in basketball and football are more likely to have behaviour problems, the reason of this inconsistency can be ascribed to the difference of the kinds of sports in the control of abnormal behaviours in sports environments. This research is inconsistent with Begg et al. [13]. They concluded that the student who have numerous behavioural problems at the ages of 17 and 18 at school, they were engaged in sports activities from the age of 15 have spent most of their leisure time in sports activities. Perhaps the reason for this is the lack of structured physical activity and the small size of the research sample, or other factors may have been involved.

Finally, the first research hypothesis emphasizes that the maladaptive behaviour of the group doing sports activities is lower than of the non-active students, in concordance with previous research. Regarding the second hypothesis, Nazari [24] concluded that students participating in school sports have less abnormal behaviour than any other sports environment because of the moral atmosphere, the kind of sport, and the structure of different schools. With regard to the third hypothesis of the research, the significant results about this aspect of the abnormal behaviour are also consistent with past research [17].

5. CONCLUSIONS

This research shows that participation in leisure time sports has a positive role in reducing the abnormal behaviours in the three aspects of maladaptive behaviour, anti-social behaviours, and immoral behaviours. Regarding the fact that prevention is emphasized in health, security, punitive,

social policies and measures, it is recommended that these measures are taken before starting the college.

1 – Families are recommended to encourage their children to participate in sports activities in their leisure time instead of spending it inactively.

2 – Schools and other educational institutes are recommended to plan and supply sports programs, equipment and facilities, so that students can spend their leisure time properly.

3- Media are recommended to encourage students and others to participate more in exercise and sports programs, and promote a culture of healthy lifestyle.

6. REFERENCES

1. Mahoney JL, Stattin H. Leisure activities and adolescent antisocial behavior: The role of structure and social context. *J Adolesc.* 2000;23(2):113-127.
<https://doi.org/10.1006/jado.2000.0302>
2. Agnew R, Petersen DM. Leisure and delinquency. *Soc Probl.* 1989;36(4):332-350.
<https://doi.org/10.2307/800819>
3. Meenagh A. Leisure, Organised Sport and Antisocial Behaviour an Examination of Youth's Involvement in Leisure, Organised Sports and its Effect on Antisocial Behaviour. Masters Dissertation. Dublin Institute of Technology; 2011. <https://doi.org/10.21427/D7ZR27>
4. Sediq-Sarvestani, R. Social Pathology (Deviation Sociology). Tehran: Asar-e Sobhan; 2004.
5. Kelley M, Sokol KJ, Braddock JH, Bassinger FL. Control Theory, Sport and Patterns in Delinquency for Youth. NY: Edwin Mellen Press; 2004.
6. Hirschi T. Causes of delinquency. Berkley: University of California press; 1969.
7. Hawdon JE. Daily routines and crime: Using routine activities as measures of Hirschi's involvement. *Youth Soc.* 1999;30(4):395-415.
<https://doi.org/10.1177/0044118X99030004001>
8. Hartmann D, Depro B. Rethinking sports-based community crime prevention: A preliminary analysis of the relationship between midnight basketball and urban crime rates. *J. Sport Soc. Issues.* 2006;30(2):180-196. <https://doi.org/10.1177/0193723506286863>
9. Ahmadi H, Muqaddas A, Khaje-nuri B. A comparative study of delinquent behavior among the high school students of the old and new education systems. *Human and Behavioral Science Magazine of Shiraz University.* 2001;6(2):193-206.
10. Anvaralkholy A. Sports and society. Tehran: SAMT Publications; 2002.
11. Aliverdina A, Arman MV. Sport Activities and Delinquency: An Empirical Test of Hirschi's Social Bond Theory. *Journal of Movement Science & Sports.* 2008;6(12):141-133.
12. Ebrahimi J. A Comparison of the way to spend leisure time and delinquency among sportsman and non-sportsman adolescents. MA dissertation. Tehran: Allame Tabatabaei University; 2011.
13. Begg DJ, Langley JD, Moffitt T, Marshall SW. Sport and delinquency: an examination of the deterrence hypothesis in a longitudinal study. *Br J Sports Med.* 1996;30(4):335-341.
<http://dx.doi.org/10.1136/bjism.30.4.335>
14. Morris L, Sallybanks J, Willis K, Makkai T. Sport, physical, activity and antisocial behaviour in youth. Canberra: Australian Institute of Criminology; 2003.

15. Holder MD, Coleman B, Zoe LS. The contribution of active and passive leisure to children's well-being. *J Health Psychol.* 2009;14(3):378-386.
<https://doi.org/10.1177/1359105308101676>
16. Wilson DM, Gottfredson DC, Cross AB, Rorie M, Connell N. Youth development in after-school leisure activities. *J Early Adolescence.* 2010;30(5):668-690.
17. Rutten EA, Stams GJJ, Biesta GJ, Schuengel C, Dirks E, Hoeksma JB. The contribution of organized youth sport to antisocial and prosocial behavior in adolescent athletes. *J. Adolesc.* 2007;36(3):255-264.
18. Janssen I. Crime and perceptions of safety in the home neighborhood are independently associated with physical activity among 11–15 year olds. *Prev med.* 2014;66:113-117.
<https://doi.org/10.1016/j.ypped.2014.06.016>
19. Folino A, Ducharme JM, Greenwald N. Temporal effects of antecedent exercise on students' disruptive behaviors: An exploratory study. *J. Sch. Psychol.* 2014;52(5):447-462.
<https://doi.org/10.1016/j.jsp.2014.07.002>
20. Rosenhan DL, Seligman ME. *Abnormal psychology.* NY: WW Norton & Co; 1995.
21. Ravanbakhsh MH. Abnormal behavior of the adolescent and family. *Journal of Psych.* 2006;1(2-3):145-174.
22. Hashemian K. *Abnormality Psychology and the Modern Life.* Tehran: Al-Zahra University Press; 1997.
23. Cohen LE, Felson M. Social change and crime rate trends: A routine activity approach. *Am Sociol Rev.* 1979;44(4):588-608. <http://dx.doi.org/10.2307/2094589>
24. Nazari N. *The Role of the Place of Leisure Time Sports Activities in the healthy and Social Behaviors among Male Students in Tehran.* MA dissertation. Tehran: Allame Tabatabaei University; 2011.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

FUNDING

This research received no external funding.

COPYRIGHT

© 2019 by the authors. This is an open-access article distributed under the terms of the [Creative Commons CC BY 4.0 license](https://creativecommons.org/licenses/by/4.0/), meaning that anyone may download and read the paper for free. The use, distribution or reproduction in other forums is permitted, provided the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms. These conditions allow for maximum use and exposure of the work, while ensuring that the authors receive proper credit.