



The Relationship between Students' Bonding to School and Multiple Health Risk Behaviors among High School Students in South-East of Iran

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Abstract

Background: School is the first social institution which affects adolescents' lives, and it determines their opportunities, life quality and behavior. Thus, the aim of this study was to determine the relationship between students' bonds with their school and multiple health risk behaviors amongst high school students in Kerman City, Iran.

Methods: In this cross-sectional study, high school students of all levels participated during November and December 2001 in Kerman. The research sample included 1024 students (588 females and 436 males) aged 15 to 19 years. A CTC (Communities That Care Youth Survey) questionnaire was designed based on a standard questionnaire in order to collect a profile of students' risk behaviors. A multi-stage cluster sampling method was used to collect the data.

Results: In the final multivariate logistic regression, two variables including; age, (ORa=1.15, P=0.02) and male gender (ORa=2.14, P=0.001) had a significant positive association with multiple health risk behaviors (MHRB). School commitment (ORa=0.38, P=0.001) and school rewards for involvement (ORa=0.80, P=0.21), had a significant negative association with MHRB.

Conclusion: Our results quantified the pivotal role of schools in shaping the risky behavior of students. It seems that school may minimize the risky behaviors by creating a strong link, and improving the effective communications with students.

Keywords: Students' bonding, Health risk behaviors, High school students

Introduction

Adolescence is one of the most important and vital stage in life, when one's healthy behavior, attitude and lifestyle is formed (1). Adolescents and young adults are often faced with dramatic changes in their social conditions which can develop rapidly, and have a profound effect on their health. The uniqueness of this developmental period and the emergence of problematic behaviors, as well

as the importance of adolescent social health and development, are significant issues in the study of health behaviors (2, 3).

The concept of health-risk behavior can be defined as; any activity undertaken by people with a frequency or intensity that increases their risk of disease or injury such as; substance abuse, risky driving, violence or suicidal tendencies, and anti-

social behavior (3, 4). There is evidence that health risk behaviors tend to cluster together with similar risk factors, underlying many different risk behaviors (5-7). Nowadays, the prevalence of multiple adolescent risky behaviors has become one of the most important concerns of our society. Despite many countermeasures against these risky behaviors in the last few years, but they are still increasing in Iran (7, 8).

Overall, it is generally accepted that the prevention principle is an effective strategy in preventing these behaviors. Thus, 'finding the reasons for adolescents' tendency towards these behaviors can be effective in removing dangerous factors' (2). It is obvious that removing these factors first requires a quantitative and qualitative review of the existing factors. The social growth model claims that social bonds with others inhibit delinquency and behavioral problems. This theory considers three factors important in the establishment of social bonds; opportunity for involvement, skills for involvement, and reinforcement for involvement (9). Involvement opportunities depend on the individuals' talents to interact with others in performing the action. Skill for involvement involves social skills that provide an individual with an opportunity to establish and maintain social relationships.

Finally, reinforcement for involvement is defined as the encouragement and motivation given to people in a social unit to start and maintain social and individual behaviors. Involvement is the main aspect in a social growth model. In this model, involvement is the prerequisite of social bonding; no bond can be established in a social unit without sufficient involvement (10). School can be regarded as the first social institution which affects adolescents' lives and determines their opportunities, life qualities, and behaviors (11). It has a deep and significant effect on adolescents' lives and plays an important role in describing an individual's feelings towards society (12, 13).

Research has shown that students who feel more connected to their school are more likely to have positive health and education outcomes (14). Many researches view schools in a framework where some concepts like; attachment, member-

ship, satisfaction, commitment, obligation, and relationships, can predict students' educational, psychological, behavioral and social achievements (15). A review of the literature reveals that there are a lot of differences in guidelines, definitions, operating methods, evaluation of students' feelings, their attitudes, behavior, performance and involvement towards school. A bond with the school signifies, students' attachment to teachers, employers, and principals, along with the feeling of pride in that school (16).

Iran is in a transitional phase toward modernity, this change as a factor besides other factors, such as more population movement, the poverty, the availability of different types of illegal drugs, and more communication using different types of devices, are the source of many social problems and deviations. (17). A lot of studies have been carried out in this field in Western and industrial societies. Although some of these results can be extended to Iran but the structure, culture, traditions, and values, of every society are different from others. In addition, factors explaining risky behavior in adolescence and the correlation level of each factor may differ. Moreover, Iran also has some special cultural and social conditions.

Iran is an Islamic country where Islamic values are strongly emphasized and school as an official institution plays a significant role in training and educating adolescents. There are many theories and studies concerning health-risk behaviors. For the following important matters the necessity of performing such research emerges: The role of school in expanding social, economic and cultural concepts, the large number of students in Iran, the necessity of taking preventive measures, the social programming related to the quality of adolescents' lives, the absence of a valid scale and criterion to assess bonds with school, and the lack of studies previously done in this area of research in Iran. On the other hand, Hawkins et al suggest that the number of risk factors presented is a more powerful predictor of problematic behavior than the individual risk factors (9).

These findings suggest that a simultaneous measurement of a broad array of risks and protective factors is necessary to adequately predict the initi-

ation and maintenance during adolescence problem behaviors such as; smoking, aggression, fighting, and suspension from school. In relation to the problems stated, a thorough investigation on risk factors seems to be a necessity. In other words, it is not possible to produce efficient preventive plans for Iran's problems based on the results of foreign studies alone; therefore, this study will be of great assistance with this issue. Accurately, recognizing and identifying priorities which have a direct or indirect relationship with emerging risky behaviors among teenagers, should be the central focus of preventive plans. These variations and other social differences have prompted us to study the role of school in adolescents' risky behaviors among high school students in Kerman City.

This paper presents only a part of a big study among students in Kerman City, to explore the role of school in risky behaviors of students.

Materials and Methods

Participants

The present research was a cross-sectional study carried out among high school students in one of the main cities in the southeast of Iran (Kerman), with a population of more than 650 000, during November and December 2011. The research sample included 1024 students aged 15-19 years, representing all levels of high school (1st to 3rd years and pre-college). By receiving permission from the Education Department's Counseling Center in Kerman City, we selected our subjects using a multistage sampling technique. First, we classified high schools based on their gender, location (north, west, east, and south), and type, either governmental or private, then in proportion to size, we selected schools randomly, while students were selected from different grades within their classes. All participants were informed about the goals of the survey and received the guidelines and instructions to fill out the questionnaire. Participants signed written informed consent and then completed the questionnaires anonymously. Since students in grades 1st to 3rd year and pre-college were targeted, enrolled students in high

school levels (consisting of private and governmental) were considered as the target population. Eligible schools included any high school with students in their 1st to 3rd year and pre-college in Kerman City. Students, who were transferring permanently from another city to a Kerman High School during the study period, were not included in the research. In addition, high schools without all grades (1st to 3rd years and pre-college) were excluded from our sample.

In order to assess the association between HRB and school factors, we estimated the sample size by comparing two means formulas. In this calculation α and β were set at 5% and 10%, and a minimum effect size of 0.5 for the standard deviation, as well as a design effect of 1.5. Based on these assumptions, the estimated sample size was 1050.

Questionnaire

We used a culturally appropriate adaptation of 'The Communities That Care Youth Survey' (CTC) instrument, a questionnaire prepared by Cataton and Hawkins. This survey instrument was designed to assess a broad set of risk and protective factors across the domains of; community, school, family, peers, and individuals, as well as health risk behavior outcomes. The questionnaire consisted of an index of problem behaviors that included 14 items which measured their frequency during the previous months or year; smoking, aggression, fighting, weapons carrying, suspension from school.

The questionnaire constituted of the following indexes: 'commitment to school' (6 items), 'school opportunity for involvement' (5 items), 'school rewards for involvement' (4 items), and an 'academic performance' index (2 items). It was translated into Persian by a translator who was fluent in both English and Persian, then it was translated back again into English by another expert who was also fluent in both languages. Finally, discrepancies between both English versions were determined.

The validity and reliability of the adapted questions were assessed in a pilot study among 40 students (20 girls and 20 boys). The validity of the responses was checked with an open flow-up dis-

cussion with the subjects, and the reliability was checked in a retest after a ten day period. The consistency between the scores was computed using Pearson's correlation coefficient, and the sample size was calculated using the results of the pilot study.

To assess the internal consistency of the items, Cronbach's alpha coefficients were calculated for each subscale. The results of Cronbach's alpha were as follow; 'risky behavior' ($\alpha=0.76$, 14 items), 'commitment to school' ($\alpha=0.83$, 6 items), 'school opportunity for involvement' ($\alpha=0.78$, 5 items), 'school rewards for involvement' ($\alpha=0.78$, 4 items), and 'academic performance' ($\alpha=0.85$, 5 items). In addition, we computed Cronbach's alpha among all participants in the data collection, which was valued at 0.78.

Statistical analysis

The data was computerized and analyzed using a Statistical Package of Social Sciences (SPSS) version 18, and before entry, all of the completed questionnaires were evaluated by the main investigator. Then the distribution of the responses was assessed and the main variables were described. In the next step, Risky behaviors were recoded into two groups Negative if the subject had smoking, aggression behaviors less than three times per month and weapons carrying, fighting, suspension from school less than three times per year. Positive if the subject had exposure to the above-mentioned items more than three times.

In this analysis, main depended variables were age (in year) gender, grade (1-3 and pre collage) and school bonding (in four subscales, each one had a score between 0 and 4).

Using logistic regression crude and adjusted OR_s between having risky behaviors and other independent variables (socio-demographic variables and risky protective factors in the high schools) were computed. In final multivariate model only significant variables were entered in crude models. Using logistic regression crude and adjusted OR_s between having risky behaviors and other independent variables (socio-demographic variables and risky protective factors in the high schools) were computed. In final multivariate

model only significant variables in crude models were entered.

Human Subjects Approval Statement

The Medical Research Ethics Committee of Kerman University of Medical Sciences endorsed the study to be conducted on high school students in Kerman City. The Permission included two different consent forms, one for conducting the study; and the other to the Ministry of Education to conduct the study in schools.

Results

A total of 1024 students completed the survey (588 females and 436 males), aged 15-19 years (mean=16.4, SD= ± 1.5 year). The number of students in the first, second, and third grades as well as pre-college students were 28% (287), 26.6% (272), 26.4% (270), and 19% (195), respectively (Table 1). Those students who stated that they did not have any health-risk behaviors were 52.2% (307) girls and 31.2% (136) boys (Fig. 1).

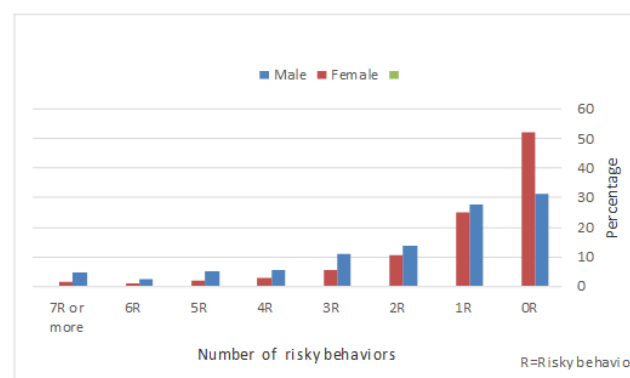


Fig. 1: Gender differences in Multiple Health Risk Behavior

On the other hand; 4.4% of males and 1.5% of females, had more than 7 health-risk behaviors. A significant positive association was found between age and the frequency of MHRB (crude odds ratio OR_c=1.23, $P=0.01$; adjusted odds ratio OR_a=1.15, $P=0.02$) (Table 2). The results of the logistic regression model showed that sex had a significant association with MHRB (OR_c=2.40, $P=0.001$,

ORa= 2.14, $P=0.001$), which means that males had a higher MHRB. Although the association between grade and MHRB was significant in the crude analysis ($OR_c=1.16$, $P=0.001$) but the ORa was not significant ($OR_a=0.94$, $P=0.66$). Protective factors relating to school commitment had a very strong negative association with MHRB in both models ($OR_c=0.35$, $P=0.001$; $OR_a=0.38$, $P=0.001$). Whereas school opportunities for involvement, showed a significant association with MHRB only in the crude analysis ($OR_c=0.82$, $P=0.001$; $OR_a=0.58$, $P=0.94$). School rewards for involvement had a negative association with MHRB in both the crude and adjusted models ($OR_c=0.72$, $P=0.001$, $OR_a=0.80$, $P=0.21$). Academic performance was the next variable which had a statistically significant negative association with MHRB in the crude analysis ($OR_c=0.75$, $P=0.001$). However, in the adjusted model, the association was not significant ($OR_a=0.98$, $P=0.90$). In the final multivariate logistic regression, four variables; age ($OR_a=1.15$, $P=0.02$) and male gender ($OR_a=2.14$, $P=0.001$) had a positive association, while school commitment ($OR_a=0.38$,

$P=0.001$), and school rewards for involvement ($OR_a=0.80$, $P=0.02$), had negative relationships with an association with MHRB. This means that after adjustment, other variables (grade, academic performance, and school opportunities for involvement) did not show any significant association (Table 2).

Table 1: Demographic characteristics of students in Kerman high schools

Variable	Frequency	Percent
Age	15	20.5
	16	29.5
	17	31.8
	18+19	18.2
Sex	Male	42.6
	Female	57.4
Grade differences	Grade1	28
	Grade2	26.6
	Grade3	26.4
	pre-college	19

Table2: Gender, grade differences, school bonding, and multiple problem behavior predictors among participating students in Kerman high schools

Variable	Crude odd ratio	P	Adjusted Odd Ratio	P
Age	1.23	0.001	1.15	0.025
Gender	Female	1	1	0.001
	Male	2.40	2.14	0.001
Grade differences	Grade1	1	1	0.67
	Grade2,3,pre-college	1.16	0.94	0.67
School commitment	0.35	0.001	0.38	0.001
School opportunity for involvement	0.82	0.004	0.58	0.945
School rewards for involvement	0.72	0.001	0.80	.021
Academic performance	0.75	0.001	0.98	0.90

Discussion

The findings showed that risky behaviors were more or less common among high school students, particularly among boys, and these behaviors increase with age. Furthermore, we found that

school commitment and school rewards for involvement had independent protective effects. However, negative associations between MHRB and other variables were not persistent in the adjusted models. Overall, results showed that there

was a relationship between age and health-risk behaviors. As students got older, the possibility of health risk behaviors increased, which is consistent with other research findings (18.5). Our results also revealed that as adolescents developed, they became more involved in risky behaviors. These variables, which are called individual elements in the present study, could be good predictors for health risk behaviors in adolescents.

Results indicated that male gender had a significant positive association with MHRB, which has also been reported in other studies as well (19-21). Studies in Iran have revealed that there were considerable differences between males and females, in which males experience riskier behaviors than females (22, 23). Maddox (2005) stated that males have weaker levels of school bonding than females (24, 25). On top of that, due to cultural barriers, males have more scope within the Iranian community for risky behaviors. School commitment is an effective factor which significantly affects students' behavior. According to the social theory model; this element means commitment and undertaking to one's school (including feelings of happiness, justice, security and respect towards their school). Two dimensions of student commitment have been identified; commitment to learning described as, 'taking school seriously,' and commitment to place described as, 'participating in extracurricular activities.' (26, 27). The control theory adds that school commitment and attachment creates an informal control that reduces problem behaviors which can interfere with school success (28).

Unfortunately, the atmosphere that exists in some schools, including teachers' behavior and their insistence on giving marks in order to improve academic performance, combined with a lack of clear objectives, have reduced this critical element among students. Paying attention to students' mental health and creating happiness in schools encourages students to attend school more willingly (29). Not only does it generate greater success in academic affairs, but it also reduces health risk behaviors. The opportunity for involvement is an element which was not significant in the adjusted regression model, although it was signifi-

cant in the crude model. We found that although attachment refers to students' intimate relations, involvement is related to behavioral relations and events like artistic and sports events (30). In addition, schools that have higher rates of participation in extracurricular activities during or after school hours tend to have higher levels of school connectedness, and this significantly lowered average students' risky behavior (31).

Some factors such as; overcrowding in a number of public schools, and less attention given to extracurricular activities such as physical activities and social events in Iranian schools, might decrease levels of school involvement as well (32, 33). The results also showed that the relationship between 'school rewards for involvement' (connectedness), and MHRB both in the crude and adjusted model was significant. School connectedness is the belief by students that the adults in the school care both about their learning, as well as about them as individuals. To increase school connectedness they need to provide students with the academic, emotional, and social skills, necessary to be actively engaged in school. In addition, they also need to use effective classroom management and teaching methods which foster a positive learning environment (34). Students are more likely to succeed when they feel connected to their school. Teaching styles of the teachers and other school employees can make students hate or love school, and lessons learnt can result in good or bad experiences in interpersonal and social relationships. Behaviors inside the school also establish and strengthen their personalities as they learn how to live with others in society. In the crude model, we found that students with high MHRB scores had lower school performance. Which means that by lowering MHRB, a school's performance might be improved. Students who are personally invested in their school and who believe that a good education is important for reaching their life goals, spend more time on homework and in-school activities, thus they have an increased sense of connectedness to their school (35).

However, it seems that school commitment must be taken in moderation. In other words, based on the results of the adjusted model, by increasing

school commitment, both MHRB and school performance might be improved. Similar results were reported by Murray and Murray (36) and Eith (16) as well, this means that both MHRB and performance might be changed by improving students' levels of school commitment.

Limitations of the study:

This study faced some limitations; For example, we could not obtain permission to ask about students' sexual behaviors. Moreover, descriptive studies are not sufficient in the field of deviant behaviors and more qualitative studies are needed in this field. The data was obtained only from high school students, which might not be a representative sample of youth information in the community.

Conclusions

Students who had a strong relationship and binding with their school (commitment and school rewards for involvement), were less likely to engage in risky behaviors. The role of gender and age in these behaviors must also be seriously taken into consideration, especially in males, because as they develop they must be encouraged to feel more connected to school and become involved in student activities such as; sports, arts and religious pursuits. The possibility of risky behavior in males was higher compared to that of females, and as students' age and academic year increases, the possibility of these behaviors increases too.

Ethical considerations

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc) have been completely observed by the authors.

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