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Determinants of responsibility for health, spiritual health and interpersonal relationship based on theory of planned behavior in high school girl students

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Abstract

Background: Adolescence is a sensitive period of acquiring normal and abnormal habits for all of life. The study investigates determinants of responsibility for health, spiritual health and interpersonal relations and predictive factors based on the theory of planned behavior in high school girl students in Tabriz.

Methods: In this Cross-sectional study, 340 students were selected thorough multi-stage sampling. An author-made questionnaire based on standard questionnaires of Health Promotion and Lifestyle II (HPLPII), spiritual health standards (Palutzian & Ellison) and components of the theory of planned behavior (attitudes, subjective norms, perceived behavioral control, and behavioral intention) was used for data collection. The questionnaire was validated in a pilot study. Data were analyzed using SPSS v.15 and descriptive and analytical tests (Chi-square test, Pearson correlation co-efficient and liner regression test in backward method).

Results: Students' responsibility for health, spiritual health, interpersonal relationships, and concepts of theory of planned behavior was moderate. We found a significant positive correlation ($p<0/001$) among all concepts of theory of planned behavior. Attitude and perceived behavioral control predicted 35% of intention of behavioral change ($p<0.001$). Attitude, subjective norms, and perceived behavioral control predicted 74% of behavioral change in accountability for health ($p<0.0001$), 56% for behavioral change in spiritual health ($p<0.0001$) and 63% for behavioral change in interpersonal relationship ($p<0.0001$).

Conclusion: Status of responsibility for health, spiritual health and interpersonal relationships of students was moderate. Hence, behavioral intention and its determinants such as perceived behavioral control should be noted in promoting intervention programs.

Keywords: Accountability in the health, Spiritual health, Interpersonal relationship, Theory of planned behavior, Girl students.

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Introduction

Health-promoting behaviors are of the best ways to protect and control health leading a health-promoting lifestyle (HPL) (1). HPL is a balanced life that a person consciously chooses to perform healthy behaviors (2). HPL has six dimensions include physical activity, nutrition, mental health, interpersonal relations, responsibility for health and stress management (3). One of the most important elements of a healthy lifestyle is responsibility for health. In the healthy lifestyle, individual perform activities such as proper diet, sleep, activity and exercise, weight control, immunization against diseases, not smoking, and not

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drink alcohol to protect and promote health and prevent diseases (4). The acceptable approach to health promotion is that individual and society have main responsibility in choosing healthy lifestyle and people must be capable to take responsibility for their own health and adopt a healthy lifestyle (5). Adolescence is an important period for strengthening responsibility of health protection and decisions making about health care (6). In addition to the physical, psychological, social and general health, spiritual health is one of the fundamental aspects of human health causing general health promotion (7). This is the coordinator of other health dimensions that can be reinforced for better adaptation and psychological functioning (8). Spiritual health is determined by properties such as stability in life, peace, feeling close relationship with God and having a purpose for life (9). Interpersonal relations are important component of any person's life from birth till death. Development of human potential, to reach the stage of actual prosperity is achieved only in light of interpersonal relations (10). Improving interpersonal relations may have good results. Interpersonal relations are mainly important on the development of mental health, personality development, identity, increase productivity, employment, quality of life, increase adaptability and stability. People who have weaker skills are less flexible than the others and are faced with many problems in the short and long terms (10). Foundation for healthy life and behavior into adulthood is beginning in childhood and adolescence. Adolescents are tending to begin to decide independently about a healthy lifestyle including physical activity and nutrition and other aspects of living. Peers, parents and school environment play significant roles in promoting children's healthy lifestyle (11). Teenagers and their health is a vital issue in global perspective (12). One of the main goals and policies of World Health Organization (WHO) is health of adolescents, especially girls. Adolescents are important for the next generations and health promotion of society and constitute the foundation of family and community of health (13). The theory of planned behavior is in relation to health behaviors prediction (14). According to this theory, intention to perform a particular behavior is predictor of that behavior. Intention derives from attitude toward the behavior, subjective norms and perceived behavioral control (the perceived degree of ease or difficulty of adopting a behavior). Contribution of each factor in predicting the behavior is not constant and varies with the type of behavior and population studied (15, 16). This theory has been used in studies of diet, use of contraceptive pills, exercise, and health screening program for road safety (17). Given the lack of research in this field, the aim of this study was to determine the status of responsibility for health, spiritual health and interpersonal relations among girl students in two high schools in Tabriz based on the theory of planned behavior.

Methods

This is a descriptive cross-sectional study performed on 340 secondary school girls in Tabriz, in the year 2012 to 2014. After arrangements for implementing this study, girl high schools in Tabriz were selected through multi-stage random sampling. There are five educational districts in Tabriz; we selected two schools from each district randomly, and finally, one class was randomly selected in each school. The samples were second grade girls in public secondary schools and voluntarily participated in the study. Before the study, approval of the relevant authorities and school administrators was obtained. Selected students' parents were assured of confidentiality of information and after obtaining informed consent to participate in the study, questionnaires were completed by students. Exclusion criterion was unwillingness of students to participate in the research.

The questionnaire was researcher-made based on the theory of planned behavior concepts using standard questionnaires for health-promoting lifestyle profile (HPLP II)

and Palutzian & Ellison spiritual health questionnaire. Final questionnaire included demographic information (field of education, number of siblings, birth order, father's and mother's education, occupation and age), responsibility for health, spiritual health and interpersonal relations based on the theory of planned behavior (attitudes, subjective norms, perceived behavioral control, behavioral intention and behavior or performance). The questionnaire consisted of 87 questions that asked about demographic information, attitudes, subjective norms, perceived behavioral control, behavioral intention and behavior (performance) with 9, 35, 9, 10, 9 and 15 questions, respectively. Scale of the theory of planned behavior (including attitudes, subjective norms, perceived behavioral control, behavioral intention) was a 5-point Likert type (completely agree, agree, no opinion, disagree, and completely disagree) and the scale of the behavior´s questions was dichotomous (Yes and No).

Scoring system was as follows: For responsibility for health, scores less than 82 categorized as poor, 82-99 categorized as moderate and over 99 categorized as good. For spiritual health, scores less than 82 categorized as poor, 82-94 categorized s moderate and over 94 categorized as good. For Interpersonal relationship, scores less than 67 categorized as poor, 67-80 categorized as moderate and over 80 categorized as good. For attitude, scores less than 128 categorized as poor, 128-146 categorized as moderate and over 146 categorized as good. For subjective norms, scores less than 30 categorized as poor, 30-36 categorized as moderate and over 36 categorized as good. For perceived behavioral control, scores less than 37categorized as poor, 37-44 categorized as moderate and over 44 categorized as good. For Intention, scores less than 32 categorized as poor, 32-39 categorized as moderate and over 39 categorized as good. For behavior, scores less than 6 categorized as poor, 6-9 categorized as moderate and over 9 categorized as good. In this questionnaire, the structures were measured directly.

The questionnaire was validated through content validity test (via expert panel include 12 health education specialists and expert in religious sciences) and then corrective feedback was applied. Minimum of content validity index in questions was 0.87 and content validity ratio of questions was over 0.76. Reliability of the questionnaire was confirmed by Cronbach's alpha and test-retest. In this case, a pilot study was conducted on 30 girl students in secondary school and retest with two-week intervals. The Cronbach's alpha values were 0.90, .092, 0.87, 0.88 and 0.98 for the attitude, subjective norms, perceived behavioral control, behavioral intention and behavior, respectively. The cut of rate of correlation coefficient between the model concepts scores in retest was 0.85. The mean of time required to complete the questionnaire was 35 minutes. Teacher or other school officials were not present when the students were completing the questionnaires. Sample size was calculated 200 students (95% confidence level, 84% power test and 5% precision). Considering the possibility of missing data, withdrawing from the study and uncompleted questionnaires, a total of 340 students were enrolled in the study and completed questionnaires. Data were analyzed using Chi-square test, Pearson correlation co-efficient and liner regression test with backward method through SPSS v.15. In liner regression test intention was dependent variable and attitude, subjective norms and perceived control behavior were independent variables.

Results

Mean±SD age of fathers and mothers were 45.57±5.78 and 40.02±4.93, respectively. Other biographic information about the frequency distribution is presented in Table 1.

Chi-square test showed no significant differences between the scores of responsibility for health, spiritual health, interpersonal relations, based on the theory of planned behavior in context of underlying variables

Table1. Frequency distribution of students' demographic information

Variable	Number	Percent
Field of study		
Mathematics and Physics	104	30.6%
Experimental sciences	126	37.1%
Humanities sciences	110	32.3%
Father's educational level		
Illiterate	18	5.3%
Elementary	75	22.1%
Junior high	87	25.7%
High school	108	31.9%
University	51	15%
	Missing case=1	
Mother's educational level		
Illiterate	29	8.5%
Elementary	100	29.4%
Junior high	77	22.6%
High school	108	31.9%
University	26	7.6%
Occupation of father		
Worker	21	6.2%
Self-employment	168	50%
Employee	48	14.3%
Other	99	29.5%
	Missing case=4	
Occupation of mother		
Housekeeper	316	93.5%
Other	20	6.5%
	Missing case=4	
Number of children		
One	28	8.2%
Two	148	43.5%
Three	99	29.1%
Four	43	12.7%
Five and more	22	6.5%
Number of birth		
One	154	45.3%
Two	99	29.1%
Three	44	12.9%
Four	28	8.3%
Five and more	15	4.4%

such as father´s or mother's educational level, occupation and age ($p>0.05$). Significant relationship was only observed between field of study and perceived behavioral control ($p= 0.02$), and the responsibility for the health ($p= 0.001$).

Pearson correlation coefficient test results showed that perceived behavioral control is negatively correlated with number of children, thus, with the increasing number of children, perceived behavioral control scores decreased ($r=0.113$ and $p= 0.04$). Of the three dimensions of lifestyle-promoting behaviors, responsibility for health and interpersonal relationship accounted for highest and lowest mean score, respectively (Table 2).

Results showed that 47.9% (n=162) of student had moderate attitude, 38.6 % (n=131) moderate subjective norms, 45% (n=152) moderate perceived behavioral control, 47.9% (n=162) moderate behavioral intention and 35.1% (n=119) had poor behavior related to responsibility, spiritual health and interpersonal relations. Level of responsibility, spiritual health and interpersonal relations were moderate. Also, there was no significant difference in the categories- poor, moderate and good- of each concept.

The Pearson correlation coefficient test showed significant correlation between all constructs of the theory of planned behavior (correlations are significant at the 0.01 level). In addition, there were significant correlation between scores of constructs of

Table 2. Descriptive statistics for the responsibility for health, spiritual health and interpersonal relationships

Parameter	Mean	SD	Min	Max
Responsibility for health	90.6	73.12	55	120
Spiritual health	87.6	8.66	53	103
Interpersonal relationships	73.3	9.23	37	94

Table 3. Linear regression (backward) model factors affecting on the behavioral intention

Variable	Beta	SE	p	Pearson Correlation
Attitude	0.277	0.024	0.0001	0.359
Subjective norms	0.087	0.051	0.1300	
Perceived behavioral control	0.322	0.061	0.0001	
Behavioral intention	0.219		0.0080	

Dependent variable: Behavioral intention

the theory of planned behavior and scores of responsibility for health, spiritual health and interpersonal relations. The highest correlation was between the scores of attitude and responsibility for health (r= 0.81).

As seen in Table 3, based on linear regression test (backward method) from the constructs of the theory of planned behavior which had significant correlation with intention (attitude, subjective norms and perceived behavioral control, as independent variables), subjective norms did not predict behavioral intention and was removed from the model. But attitude and perceived behavioral control predicted %35 of behavioral intention changes (p<0.0001).

Discussion

Responsibility for health, spiritual health, and interpersonal relationship are important dimensions of HPL. The results of this study showed that the greatest and lowest scores are accounted for responsibility for health and interpersonal relationship, respectively. This finding is consistent with the result of study performed on Indian students (17). These findings are inconsistent with results of studies in health-promoting behaviors among middle school students in Qazvin and those from Japanese universities (18). This inconsistency may be related to the timing and research environment. Given these findings, focusing on the interpersonal relationships and spiritual health has priority in the interventional programs in this field. Responsibility for health means to understand what activities should be used to achieve a healthier lifestyle (19). Adolescence is an important period for strengthening responsibility for health. Current findings were not similar to the results from a similar study on students of Yazd University of Medical Sciences (20).

Interpersonal communication required to achieve a sense of intimacy in meaningful relationships and reach to top position in interpersonal relations (19). The results showed that the students' interpersonal relationship had the lowest score. These findings are inconsistent with results of study in this field in Kuwait (21). The difference in findings may be related to the timing and research environment. Given these findings, more attention should be paid to interpersonal relationships. Our results showed no significant difference between the responsibility for health, spiritual health, and interpersonal relationship and variables such as parent education or occupation. Nonetheless, in some research parent's education and occupation affected on lifestyle promotion behaviors (20, 22) and lifestyle promotion behaviors were significantly higher in those whose mothers were housekeeper. The reason may lie under that fact working mothers can change family traditions for a better participation in social activities. Working mothers with higher levels of education may play better role in health promotion

Perceived behavioral control could be defined as a person's feelings about performing or abandoning an action to the extent he/she feels it is under his/her control (23). I this study, increasing number of members in family were negatively correlated with

perceived behavioral control scores of students. The support of the family is one of the behavioral facilitating factors. According to the findings promotion interventions to support parents and families in this area should be noted on improving students' perceived behavioral control in relation to the promotion of healthy behaviors.

In this study concept of behavioral intention, as a predictor of behavior, correlated with attitudes and perceived behavioral control. This finding was in line with a study investigating application of theory of planned behavior in physical activities in adolescents of Qazvin (24). Therefore, strengthening of attitude, and perceived behavioral control may result in promoting behavioral intention. The results showed that attitude and perceived behavioral control can predict intention to change responsibility for health, spiritual health and interpersonal relationship to 35%. Blanchard and et al study showed that perceived behavioral control significantly predicted students' intention to consume fruits and vegetables (25). In a study designed to investigate the theory of planned behavior in 7 categories of health behaviors, including substance abuse, driving, eating, exercise, AIDS, and dental health, perceived behavioral control was the most important predictor of intention; subjective norm was not involved in predicting intention (26). Furthermore, promotion of responsibility for health, spiritual health and interpersonal relationship required attention to attitude and perceived behavioral control.

Limitations of this study were self-reporting questionnaire, no participation of boy students, and the results dependence upon time and place. A comparative study including boy high school students and data collection through interview and checklists is recommended.

Conclusion

The state of responsibility for health, spiritual health and interpersonal relationship was average. Therefore, while designing educational interventions based on the theory of planned behavior for these students, behavioral intention and its determinants such as attitude and perceived behavioral control as well as their field of education and number of children in family should be considered.

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