

Predicting Aggression among Male Adolescents: an Application of the Theory of Planned Behavior

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ARTICLE INFO	ABSTRACT
<p>Article type: Original Article</p>	<p>Background: Aggressive behavior in adolescence can be expressed as a predictor for crime, substance abuse, depression and academic failure. The purpose of this study was to determine the prediction of aggression among Iranian adolescent based on theory of planned behavior (TPB) as a theoretical framework.</p> <p>Methods: In this cross-sectional study, conducted in Yasuj County, south of Iran, during 2011, a total of 256 male adolescents, were randomly enrolled. Participants filled out a self-administered questionnaire. Data were analyzed by SPSS version 21 using bivariate correlations, and linear regression statistical tests at 95% significant level.</p> <p>Result: The three predictor variables of 1) attitude, 2) subjective norms, and 3) perceived behavioral control, accounted for 40% of the variation in the outcome measure of the aggression intention. Besides, intention accounted for 15% of the variation in the outcome measure of the aggression behavior. There was a significant correlation between drug abuse and alcohol consumption, have friend drug user, unprotect sex and parents divorced with aggression ($P < 0.05$).</p> <p>Conclusions: Designing intervention to reduction positive attitude and subjective norms toward aggressive behavior among adolescents could be usefulness result to aggression prevention.</p>
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Introduction

Aggression among adolescents is a substantial public health concern^{1,2} and, defined as behaviors intended to hurt, harm, or injure another person³. Always among all ages and strata are those due to aggressive behavior that make unsafe environment for those

around him. Aggression exists from early childhood and continues in adolescence and adulthood however, can emerge most aggressively attributed to adolescence⁴. Geen (1998) argued that when looking at the lifetime incidence of aggressive behavior, the majority of

aggressive behavior occurs during adolescence⁵. Furthermore, most of the studies reported higher rates of aggressive behavior among adolescence boy^{6,2}. Factors that caused the attention of researchers to aggression are, consequences of such behavior; aggressive adolescents may be less able to inhibit impulses, urges, or strong affect and, thus, act out on anger-related impulses⁷. Aggressive behavior is serious problems that negatively affect schoolchildren's mental health and achievement⁸. Aggressive males were at risk of personality disorders^{9,10}; also aggression behaviors can potential risk factors for adolescent depression, substance abuse, suicidal behavior, self-harm, and susceptibility to future problems of violence and delinquency and academic failure among adolescent¹¹⁻¹⁵. Unfortunately one of the most serious social issues especially in recent years is expanding the scope of aggression in Iranian society; and studies performed in Iran have reported levels of aggression among adolescents and young adults were very high^{16,17}. Accordingly, efforts to reduce the likelihood that interpersonal conflicts escalate into violent incidents should be part of any strategy to reduce adolescents' risk of violence-related injury and death. These efforts are likely to be most effective if they are based on a solid theoretical framework².

For aggression prediction, the theory of planned behavior (TPB) postulates that cognitions such as attitude, social norm and perceived behavior may predict that aggression intention^{2,18}.

TPB was proposed by Ajzen in 1985. Based on this theory, the primary determinants of future behavior are one's intention to perform the behavior and the subjective perception of having control over behavior. In turn, intentions are predicted by three variables: (a) Attitudes are a person's positive or negative evaluation of performing the focal behavior, (b) Subjective norms (SN) are a person's perception of other people's opinion regarding behavioral performance and (c) PBC refers to a person's sense of control over performing the behavior under study. When PBC is a reflection of

actual control over behavioral performance, it is expected that it will predict behavior directly¹⁹.

Regarding the wide incongruities among the results of the studies and also absence of studies in developing countries, our TPB based study focused on exploring cognitive factors related to aggression behavior in a sample of adolescents in the Yasuj County, southern Iran.

Materials and Methods

Participants and Procedure

This cross-sectional study was conducted on 256 male adolescent aged 15 to 19 yr old with mean of 16.65 [95% CI: 16.49, 16.82] yr in Yasuj City in south of Iran, during 2011. This study was a part of a project conducted with aim of providing knowledge for prevention of aggression among adolescent male population in Yasuj, Iran. The sample size was calculated at 95% significant level according to the results of a pilot study and a sample of 256 was estimated. Being literate for completing written questionnaire were eligibility criteria to participate in this study. To enroll the participants at first different areas of the city were classified based on the municipal divided region, next for each region one crowded area were randomly selected (a total of four areas were selected) and finally, participants were enrolled in study voluntarily.

Of the population of 256, 202 (78.9%) signed the consent form and voluntarily agreed to participate. The study was approved by the Institutional Applied Research Bureau of the police of Yasuj.

Prior to conducting the main project, a pilot study was conducted to obtain feedback about the clarity, length, comprehensiveness, and completion time of the questionnaire, as well as estimating the internal consistency of the questionnaires.

Demographics

Background data collected were: age (years), level of education (elementary, secondary, high school, or university), marital

status (single or married), Job (school student, college student, worker), having friends who had history of the smoke use (yes/no), having friends who had history of the drug use (yes/no), parents' divorce (yes or no), history of smoking (yes/no), alcohol use (yes/no), history of drug use (yes/no), and have unprotect sex (yes/no).

Aggression

Aggression was measured by a Buss-Perry aggression questionnaire²⁰. This scale has a 29 item questionnaire where participants rank certain statements along a 5 point continuum from "extremely uncharacteristic of me" to "extremely characteristic of me". Examples of the items are: 1) Once in a while I can't control the urge to strike another person, and 2) I sometimes feel like a powder keg ready to explode.

TPB Theoretical Variables

TPB scale was designed based on a standard questionnaire² and included 19 items under four constructs including (a) attitude; (b) subjective norms; (c) perceived behavioral control; (d) behavioral intention. Five items were designed to measure attitude toward aggression (e.g., If someone calls my family a bad name, I should fight them). Seven items were designed to measure subjective norms toward aggression (e.g., If someone was calling your family a bad name, would most people who are important to you approve of you fighting them). Three items were designed to perceived behavioral control toward control aggression (e.g., If someone calls your family a bad name how easy would it be for you to avoid getting into a fight with them). Four items were designed to evaluate intention to aggression (e.g., if someone spreads lies about you, would you try to fight them). In order to facilitate participants' responses to the items, all items were standardized to a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Prior to conducting the main project, a pilot study was carried out. Initially the relevant questionnaires were administered to 30

participants who were similar to study population in order to estimate the duration of the study conduction and to evaluate the reliability of the questionnaire. Estimated reliability using alpha Cronbach coefficient for each TPB constructs questionnaire were as follows: attitude ($\alpha = 0.83$); subjective norms ($\alpha = 0.84$); perceived behavior control ($\alpha = 0.77$) and behavioral intention ($\alpha = 0.74$).

Statistical Analysis

Data were analyzed by SPSS version 21 using appropriate statistical tests including bivariate correlations and linear regression at 95% significant level.

Results

Of the 202 respondents, 65 (32.2%) of participants were aggressive. The mean score of aggression was 69.7 [95% CI: 67.2, 72.1], ranged from 37 to 127 years. Regarding the educational status 3% (6/202) were middle, 96% (194/202) were high school, and 1% (2/202) was academic educated. 5.4% (11/202) of participants were married. Furthermore, 3.5% (7/202) also reported that their parents were divorced.

Nearly 23.8 % (48/202), 16.8% (34/202), and 8.9% (16/202) of the participants were reported cigarette smokers, social drinkers, and drug use. Moreover, 12.4% (25/202) reported having unsafe sexual behavior (without using condoms, or having multiple sexual partners). Most of the participants (84.7%) were high school students. Among the demographic characteristics: drug abuse, alcohol use, have friend drug user, unprotect sex and parents divorced was influencing on aggression among adolescents (Table 1).

Table 2 shows bivariate associations among the TPB variables and aggression. Attitude was significantly related to subjective norms ($r = 0.690$), intention ($r = -0.615$), and aggression ($r = 0.537$), but non-significant correlation between attitude and perceived behavioral control ($r = -0.116$). Additionally, subjective norms was significantly related to the intention ($r = 0.531$), and aggression ($r =$

0.514), also non-significant correlation between subjective norm and perceived behavioral control ($r = -0.125$). The relationship

between perceived behavioral control and intention ($r = -0.104$) and aggression ($r = -0.024$) were inversely but non-significant.

Table 1: Demographic characteristics relating to aggression among adolescents, n = 202

Variables		Aggression		Statistics
		Yes (n= 65) n (%)	No (n=137) n (%)	
Drug Abuse	Yes	10 (55.6)	8 (44.4)	$X^2 = 4.948, P= 0. 026$
	No	55 (29.9)	129 (70.1)	
Alcohol Use	Yes	17 (50)	17 (50)	$X^2 = 5.950, P= 0. 015$
	No	48 (28.6)	120 (71.4)	
Have a drug user buddy	Yes	20 (48.8)	21 (51.2)	$X^2 = 6.497, P= 0. 011$
	No	45 (28)	116 (72)	
Unsafe Sex behavior	Yes	13 (52)	12 (48)	$X^2 = 5.137, P= 0. 023$
	No	52 (29.4)	125 (70.6)	
Parents Divorced	Yes	5 (71.4)	2 (28.6)	$X^2 = 5.119, P= 0. 024$
	No	60 (30.8)	135 (69.2)	

Table 2: Predictor Variables Correlation Matrix, n = 202

Variables	Mean(SD)	X1	X2	X3	X4
X1.Attitude toward aggression	15.46 (4.43)	1			
X2.Subjective Norms toward aggression	19.30 (5.85)	0.690*	1		
X3.Perceived control aggression	8.36 (2.74)	-0.116	-0.125	1	
X4.Intention to aggression	13.67 (3.50)	0.615*	0.531*	-	1
X5.Agression	69.72 (17.59)	0.537*	0.514*	-	-
				0.104	0.393*
				0.024	

* $P < .01$

As can be seen in Table 3 linear regression analysis was performed to explain the variation in aggression intention, and our results showed on 2nd step the procedure stopped and the best model was selected, and three predictor variables of 1) attitude, 2) subjective norms, and 3) perceived behav-

ioral control, accounted for 40% of the variation in the outcome measure of the aggression intention. Besides, intention accounted for 15% of the variation in the outcome measure of the aggression behavior ($F = 36.531, P < 0.001$).

Table 3: Predictors of the aggression intention, n = 202

Variable	B	SE B	B	T	P-value
Step 1					
Attitude	0.373	0.060	0.472	6.204	0.000
Subjective Norm	0.121	0.046	0.203	2.660	0.008
Perceived Behavioral Control	-0.031	0.071	-0.024	-0.431	0.667
Step 2					
Attitude	0.374	0.060	0.473	6.240	0.000
Subjective Norm	0.122	0.045	0.205	2.697	0.008

Adjusted R2 = 0.40, F = 66.235, P < 0.001

Discussion

The study findings suggest that the prevalence of aggression among a sample of Iranian adolescents is relatively high. The results indicate that the attitudes towards the aggression, and subjective norm as the two main constructs of TPB were associated with the aggression prediction among Iranian adolescents. It is also important to note that the drug abuse, alcohol consumption, have friend drug user, unprotect sex and parents divorced at greater risk of aggression behavior.

Our result showed the prevalence of 32.2% aggression among adolescents. In this regard, several studies showed the incidence of 10 to 50 percent of aggression among adolescents and young adults (8, 16, 17, 21). It seems the traditional society, ethnic prejudice and family could be of reasons for the high level of aggression in this study. In addition, Souweidane and Huesmann stated aggression stems from the culture of the society²².

The study findings also indicated the prevalence of aggression with smoking and alcohol consumption. Epstein et al.²³ Zivari Rahman et al.²⁴ showed association between aggression and substance abuse. We found significant relationship between parents' divorce and higher rate of aggression among adolescents. Parents' divorce might leave the adolescents vulnerable in many ways: less monitoring, often fewer adults to confide in, and sometimes increased aggression because of feelings of loss might contribute^{8,25}. In addition, Yaghobiet al.²⁶ reported parents' divorce or separate, could be underline several physical and psychological problems such as aggression among their child or children.

It is postulated that "The TPB focuses on theoretical constructs that are concerned with individual motivations as determinants of the likelihood of a specific behavior"²⁶. In numerous studies, TPB had been used successfully to predict and explain a wide range of health-related behaviors such as aggressive behavior, anabolic steroid abuse,

alcohol conception, smoking and drug abuse^{2, 18, 27-31}.

Our results showed that the attitude, subjective norms and perceived behavior control accounted for 40% of the variation of the aggression intention. In addition, intention, accounted for 15% of the variation in the outcome measure of the aggression behavior. Linear regression analyses showed that, attitude and subjective norm, as the two main constructs of TPB, were associated with the aggression intention. The TPB suggested that PBC of the focal person in a decision making situation may affect behavioral intentions³². In this regard, several studies have reported PBC, as a prediction of high risk behavior³³⁻³⁶. In addition, condom use intention is at greater risk of HIV infection as people form positive attitudes for the condom use, but they have low perceived behavioral control in reality³⁷. Our results showed that attitude and subjective norms were strong predictors for aggression intention among boy adolescents. This result is not similar to the results reported by other studies. Our finding should be interpreted with caution, and more study in this regard among Iranian adolescents is necessary.

Encouraging aggressive behavior by parents and friends and positive attitudes towards aggression could be underlied for aggressive behavior among adolescents. These findings could be applied in designing aggression preventive intervention. For example, our result would suggest that interventions for teenager population should be directed at changing attitudes toward violent behaviors or attitudes toward ending disputes without fighting. Besides, this is important to note to role of peer groups in teenagers lives.

Although the present study has several strengths, such as theory based study, and using the standard questioner for data collection, it has a certain limitations. The first is the small sample size. Second, the information was based on self-reporting, which always faces the risk of recall bias and we do not know how it could have affected the results and the third is the study among boy

adolescence. Future studies in this context may also support our findings by sampling female adolescents and diverse population.

Conclusion

Our finding could be useful for guiding practitioners and implementers to design and implement effective aggression preventative programs. Thus, TPB-based assessments of behavior may provide insights for intervention to reduction positive attitude and subjective norms toward aggressive behavior among adolescents.

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Competing interests

The authors declare that there is no conflict of interest.

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