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Original Article

Adolescent Problem Behavior in Navi Mumbai: An Exploratory Study of Psychosocial Risk and Protection

R.J. Solomon, PhD
Address for Correspondence: Dr. R. J. Solomon, Head, Department of Psychology, K B P College, Vashi, Navi Mumbai 400703 India. E mail: rjsolomon@rediffmail.com

ABSTRACT

Background: A conceptual framework about protective factors (models protection, controls protection, support protection) and risk factors (models risk, opportunity risk, vulnerability risk) was employed to articulate the content of five psychosocial contexts of adolescent life -individual, family, peers, school, and neighborhood - in a study of problem behavior. **Aims:** To identify problem behaviors among adolescents by investigating socio-demographic and psychosocial risk and protective factors. **Methods:** Questionnaires assessing a broad range of problem behaviors and health and wellbeing, as well as psychosocial risk and protective factors were administered to 1129 (522 males, 607 females) adolescents in the age group of 13 to 20 years in Navi Mumbai. **Results:** Of those with multi problem behavior 87% were males and 13% were females. Control protection was the salient protective factor while opportunity risk was the salient risk factor. Urban living and low standard of living in adolescents were associated with problem behaviors. **Conclusions:** The evidence from this study suggests that significant portions of adolescents experience problem behaviors such as substance misuse, delinquency, risky sexual behavior and suicide.

Key words: Adolescent Health, Risk Factors, Protective Factors, Problem behaviours

INTRODUCTION

Adolescents are generally thought to be healthy. Nevertheless, suicide, depression, other mental health conditions, AIDS and other adolescent-focused risks threaten this notion of prevailing good health for adolescence. Indian studies show that 20-30% of adolescent males and up to 10% of adolescent females are sexually active before marriage;[1] 4.5% of drug users belong to the age group of 12-17 years and 13.9% to the age group of 18-23 years;[2] 20% of teenagers are likely to be depressed;[3] and 40% admit to severe anxiety.[2]

This study is aimed at understanding various psychosocial factors that determine adolescent health risk behavior. Traditionally, researchers have examined problem behavior from a strictly individual perspective, giving little attention to adolescents' interactions within a social context and even less attention to cross-context interactions[4-6] Recently, researchers in West have taken a more ecological approach. Bronfenbrenner's socio ecological theory describes the social world of adolescents in several microcosms of contact; each nested within the next according to their immediacy to the developing person.[5] The most immediate level, the microsystem, consists of a network of face-to-face relationships. The mesosystem is the interlinked system of microsystems in which a child participates – for example, linkages between family and school. The external environments in which a child does not participate but which exert indirect influence on child are referred to as exosystems. An example is the work setting of a family member. Finally, the macro system consists of broad belief systems and institutional patterns that provide the context for human development. This model offers a framework for looking at ways that extrafamilial conditions and environments influence intrafamilial processes. The present

study elaborates the ecological model described by Jessor to include five domains: individual, family, peers, school and immediate social environments (neighborhood).[7]

Influence of Risk and Protective Factors on Problem Behaviours

Risk factors have been broadly defined as "those characteristics, variables or hazards that, if present for a given individual, make it more likely that this individual, rather than someone selected from the general population, will develop a disorder".[8] Protective factors are those factors that mediate or moderate the effect of exposure to risk factors, resulting in reduced incidence of the problem behavior.[9] Risk and protective factors have been identified in different domains, including the broader community, the school, the family, the peer group, and the individual.[10]

Psychosocial risk and protective factors account for substantial variance in adolescent problem behavior, and the linkages of risk and protection to problem behavior are robust in relation to multiple outcome criteria (e.g., delinquency, addictive behavior and risky sexual behavior) for both males and females, for younger and older adolescents, across groups varying in socio-economic status, and across race and ethnicity subgroups.[11-13]

A large body of work documents the interrelationships among a broad range of "problem behaviors".[14-16] Numerous studies documenting a correlation between two or more risk behaviors provide partial evidence of Jessor's hypothesis that problem behaviors comprise a single syndrome or, as Delbert Elliott describes it, a single health-compromising lifestyle.[17] For example, studies have identified these behavior combinations: aggression, substance use, and suicidal behavior[18] substance use, sexual activity, and suicidal behavior[19] , substance use and violence[20]; and substance use and sexual activity[21]. Thus, multiple forms of problem behavior are consistently predicted by increasing exposure to identifiable risk factors.[16, 22] More risk exposure is associated with greater likelihood of problems.

The aims of this study are to: (1) identify problem behavior in a sample of adolescents; (2) investigate their associated psychosocial risk and protective factors in both individual and social contexts, and to (3) elaborate the types of risk and types of protection influencing problem behavior.

METHODS

Variables under study

Sociodemographic: The study included the following socio demographic characteristics: age, gender, linguistic group, community, caste and standard of living index (SLI).

Psychosocial risk and protective factors: Psycho-social risk and protective factors that operate from adolescent individual context and four social contexts namely family, school, peers and neighborhood were assessed. The measures of the three kinds of context protective factors (model protection, control protection, support protection) and the three kinds of context risk factors (model risk, opportunity risk, vulnerability risk) are based on the problem behavior theory. Context protection and context risk together, and in interaction, can account for variation in problem behavior. The protection and risk factors were measured on 4-point scale that describes the respondent’s experiences as mild, moderate, high or very high.

Model protection was measured in two social contexts namely, family and peers (parental model for conventional behavior and friend’s model for health behavior). Control protection was measured in both individual and social context. Variables used to measure control protection in individual context include attitudinal intolerance of deviance, perceived health compromising effects of risk behavior, values on health, religiosity, positive orientation to life, positive orientation to school, and participation in prosocial activities. Control protection was also measured in all four social contexts namely family, school, peers and neighborhood. Variables measuring control protection in social context include parent sanctions, family regulatory controls, parental presence in the home, peer controls against risk behavior, peer disapproval of

risk behavior, school regulatory controls, student disapproval of risk behavior, positive normative beliefs about school behavior, perceived availability of activities at school, neighborhood social controls and neighborhood disapproval of teenage transgression. Support protection also referred to as connectedness by some researchers was measured in all four social contexts namely family, peers, school and neighborhood. Variables measuring support protection include family support, parental expectations for academic achievement, supportive friends, teacher support and neighborhood support**.**

Models risk was measured in all four social contexts namely family, peers, school and neighborhood**.** Variables measuring model risk include family models for risk behavior, friend's models for risk behavior, peer model for harassment, friend's model for health compromising behavior, school models for risk behavior and neighborhood models for risk behavior. Opportunity risk was measured in two social contexts namely family and neighborhood context**.** Variables measuring opportunity risk include availability of tobacco/cigarettes at home, availability of alcohol at home, neighborhood access to illegal substances and youth gangs. Vulnerability risk was measured in individual context and in all four social contexts. Variables measuring vulnerability risk in individual context include feelings of stress and anxiety, depression, low expectations for success and low self-esteem. Variables measuring vulnerability risk in social context include victimization in the home, family tension, greater orientation to peers than parents**,** peer pressure for risk behavior, harassment in the school and neighborhood safety.

Adolescent Health and Wellbeing Questionnaire (AHWQ) included an adaptation of the Adolescent Health Development Questionnaire (AHDQ)[23] and five subscales from the General Well-being Schedule (GWBS).[24] Cognitive pretesting and pilot testing of survey questionnaire (AHWQ) was conducted with a view to improve the quality of the items of the questionnaire. Similarity across the U.S. and India samples of alpha reliability coefficients for a large number of the measures in the AHWQ substantiate the value of the questionnaire in India (Table 1.1).

Adolescent problem behavior: A Multiple Problem Behavior Index (MPBI) was developed to assess adolescent involvement in seven different types of problem behaviors namely unhealthy eating, addictive behavior, violent behavior and delinquency, depression and suicidal behavior, risky sexual behavior and sedentariness. The measures of adolescent problem behavior was developed based on problem behavior lists used in other major studies of adolescent development.[27-29]

The Multiple Problem Behavior Index (MPBI) criterion used in this study assesses overall level of involvement in seven different types of adolescent-reported problem behavior: (1) unhealthy eating comprised of skipping breakfast, snacking instead of eating regular meals and eating a lot of "junk food" (α=.50); (2) addictive behavior (α=.82) included smoking / tobacco chewing (α=.74), alcohol use (α=.72), and drug use (α=.21) (based on self-report of frequency and amount of smoking, drinking and drug consumption in the past six months); (3) violent behavior comprised self-report of carrying anything to protect oneself in the past twelve months (α=.79); (4) audacious behavior included dangerous acts for the thrill of doing it, taking chance with safety because it was exciting and doing something dangerous because someone dared one to do it (α=.84); (5) suicidal behavior consisted of having seriously thought about suicide or ending life and making an attempt to commit suicide (α=.41); (6) risky sexual behavior included (ever) sexual intercourse and number of sexual partners in life (α=.40); and (7) sedentariness (physical inactivity) comprised number of hours one is sitting around doing nothing in a week, feeling left out, feeling unsure about oneself and hardly doing anything meaningful in life (α=.40). Alpha reliability of this seven-component MPBI is .92

The Multiple Problem Behavior Index scores are derived by computing the cumulative scores of all seven components. The highest and the lowest scores were identified (89.90-36.50) and the scores within this range were equally divided into three categories represented as low,

medium and high scores (36.50-54.2 Low), (54.30-72 Medium) and (72.1-89.9 High). This method was repeated to derive cut of scores for all the components of the survey instrument.

Table 1.1: Comparison of American and Indian Cronbach's alpha reliabilities of protective and risk factors and composite measures

Measure (number of items)	U. S. Sample[23]	Indian Sample
Protective factors		
Models protection (21)	***.85***	***.68***
Parent models for health behavior (8)	.78	.68
Friends models for conventional behavior (5)	.74	.40
Friends models for health behavior (4)	.73	.64
Controls protection (41)	***.91***	***.83***
Attitudinal intolerance of deviance (10)	.92	.80
Parental sanctions (4)	.74	.53
Family controls (8)	.78	.53
Peer controls (4)	.81	.70
School controls (3)	.64	.43
Student disapproval (4)	.82	.78
Neighborhood controls (3)	.72	.61
Neighborhood disapproval (3)	.90	.67
Support protection (16)	***.85***	***.74***
Family support (7)	.86	.74
Friends support (2)	.78	.76
Neighborhood support (3)	.86	.85
Risk factors		
Models risk (14)	***.76***	***.71***
Family models for risk behavior (2)	.22	.00
Peer models for risk behavior (5)	.48	.62
School models for risk behavior (5)	.88	.67
Neighborhood models for substance use (2)	.56	.40
Opportunity risk B availability (3)	***.54***	***.39***
Availability of cigarettes at home (1)	--	--
Availability of alcohol at home (1)	--	--
Availability of alcohol in the neighborhood (1)	--	--
Opportunity risk B gangs (2)	***.86***	***.68***
Vulnerability risk (22)	***.87***	***.65***
Felt stress (3)	.74	.74
Low expectations for success (9)	.88	.57
Low self-esteem (7)	.68	.56

Sample

The study was carried out in the co-educational schools, junior colleges and senior colleges of various nodes of Navi Mumbai. Students from 8th standard (expected of 13 years or above) were selected as study sample. The upper age limit for adolescents was fixed at 20 years and as such the study included final year (graduate) degree students of mainstream arts, commerce and science colleges. The sample consisted of all students from selected classrooms in 9 schools and colleges. Three schools and colleges each from 3 implicit strata (based on socioeconomic category of students served) were selected randomly from 78 institutions on a sorted list. The sample consisted of 1129 adolescents with 522 males (46%) and 607 females (54%). There were 724 (64%) young adolescents (13-16 years) and 405 (36%) old adolescents. Four fifths of the subjects were Hindu and about a tenth Christians. About 35.6% were from a Marathi linguistic background and 17.4% from a Hindi background. Other major linguistic groups were Malayalam (9.6%), Gujrati (7.0%), Tamil (6.9%) and Kannada (5.8%). About two fifths of students had been staying in Navi Mumbai for 8-14 years and one third for longer than 15 years. Prior to their residence in Navi Mumbai, more than four fifths of students had resided

in urban localities. According to the standard of living index, 11.1% of students had a low index, 68.6% a medium index and 20.3% a high index of living.

Procedure

Letters describing the study were distributed to the school/college administrators and consent was obtained from all students. Questionnaires were filled out at school/college class setting in large group administration sessions proctored by research staff. Confidentiality of information, anonymity of participants, and honesty of responses were emphasized in the set of standardized instructions.

Analytic Procedure

Pearson's correlation coefficient was computed between socio demographic factors with problem behaviors, context risk and context protection with problem behavior. Logistic regression analysis was used to assess the impact of predictor variables (socio demographic factors and risk and protection factors) on the dependent variables that is problem behavior.

RESULTS

Among adolescents with multiple problem behaviours (N=90) an overwhelming proportion (87%) was male. Multiple problem behavior index (MBPI) did not show any major difference among younger and older adolescents.

The Pearson correlation was applied to understand the relationship between composite protection and problem behavior and composite risk and problem behavior in high risk adolescents (n=90). The composite measure of control protection and multiple problem behavior index were weakly correlated ($r= .016$; $df= 89$, $p>0.05$). The composite measure of model risk and multiple problem behavior index were negatively correlated ($r= -.279$; $df= 89$ $p <.01$). The composite measure of opportunity risk and multiple problem behavior index were positively corelated ($r= .268$; $df= 89$ $p <.01$).

Binary logistic regression analysis was used to understand the predictors of Multiple Problem Behavior Index. Students were grouped in two categories based on the whether adolescents experienced low or high problem behavior on MPBI. The male adolescents were more likely to develop problem behavior than female adolescents. Adolescents with a low standard of living index were more likely to develop problem behavior than adolescents with a high standard of living index. After controlling all other psychosocial risk and protection variables, mild control protection had odds of 16 times less problem behavior than very high control protection. Other risk and protection variables were not found significant (Table 2).

DISCUSSION

The assessment of three types of protection - models, controls, and supports and three types of risk - models, opportunity, and vulnerability at both the individual level and in the key contexts of adolescent life, yielded theoretically relevant measures that were internally coherent, relatively independent, and significantly related to the multiple problem behavior criteria.

High problem behavior was observed in male adolescents, and those with lower control protection and higher model and opportunity risk. This confirm the past research that has consistently demonstrated an association between gender and adolescent problems with adolescent males exhibiting more problem behavior than adolescent females.[30]

Among the significant component subscales of controls protection, were attitudinal intolerance of deviance at the individual level and family controls. Historically, attitudinal intolerance of deviance has been a strong and consistent individual-level predictor of adolescent problem behavior involvement.[15,16] The traditional family life in India still seems to be playing a significant role in influencing youth behaviour.

Table 2: Impact of psychosocial risk and protective factors on Multiple Problem Behavior Index

Psychosocial Risk and Protective Factors	Exp(B)
PROTECTIVE FACTORS	
Very High Model Protection®	
Mild Model Protection	.464
Moderate Model Protection	.565
High Model Protection	.864
Very High Control Protection®	
Mild Control Protection	.007**
Moderate Control Protection	.077
High Control Protection	.205
Very High Support Protection®	
Mild Support Protection	1.173
Moderate Support Protection	1.129
High Support Protection	1.795
Very High Control Protection Individual®	
Mild Control Protection Individual	18.115
Moderate Control Protection Individual	5.251
High Control Protection Individual	1.865
Very High Control Protection Social®	
Mild Control Protection Social	3.429
Moderate Control Protection Social	1.303
High Control Protection Social	.218
RISK FACTORS	
Very High Model Risk®	
Mild Model Risk	.000
Moderate Model Risk	1.505
High Model Risk	.327
Very High Opportunity Risk®	
Mild Opportunity Risk	.422
Moderate Opportunity Risk	4.702
High Opportunity Risk	.599
Very High Vulnerability Risk®	
Mild Vulnerability Risk	2.529
Moderate Vulnerability Risk	.901
High Vulnerability Risk	4.016
Very High Vulnerability Risk Individual®	
Mild Vulnerability Risk Individual	1.173
Moderate Vulnerability Risk Individual	.690
High Vulnerability Risk Individual	.275
Very High Vulnerability Risk Social®	
Mild Vulnerability Risk Social	.686
Moderate Vulnerability Risk Social	2.409
High Vulnerability Risk Social	4.292

Dependent Variable is Multiple Problem Behavior Index (MPBI): 0= low; 1= High; ®: Reference Category; Significance: **p<0.10

With regard to controls protection, Barber and Olsen noted that "regulation experienced in the family and/or in other social contexts would be protective against externalized problem behaviors," a comment consistent with the findings of this study.[31] What the present study adds is a demonstration of the relatively greater importance of controls protection and opportunity risk in regulating problem behavior involvement in these adolescent samples. Although support protection was not a significant predictor in the final correlation analysis of multiple problem behavior involvement, component subscales of support protection such as family support, parental expectations for academic achievement, supportive friends were shown to account for protection against problem behavior involvement at the bivariate level.

Models risk emerged as the most important type of risk for involvement in problem behavior. Family models for risk behavior, friend's models for risk behavior and friend's model for health compromising behavior had significant weights in the analyses of subscales. Similar findings have been noted in other studies.[11, 12, 32, 33-35]

The present study was subject to a few limitations. It is a cross-sectional study with selected set of measures of protection and risk; hence it cannot capture all the complexity of adolescent problem behavior across development. Also, the data are appropriate only for inferences about urban, school/college-based populations. It is important to note that this sample does not include the experiences of out-of-school/college adolescents, who are more likely to engage in health risk behaviors [36, 37] and may have different patterns of co-occurrence of risk. A third limitation stems from the fact that the measures of both the predictor and criterion variables are based on self-report, and the obtained relationships could have been influenced by common method variance.

The findings from this study can inform the development of intervention programs designed to enhance protection for adolescents at risk for problem behavior involvement. Such efforts should not just target single risk behaviors, but should target multiple risk behaviors. In addition, risk/protection interactions across contexts should be further explored.

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