

# Construction of Model for the Early Detection of Secondary schools Students 'Exposure to Risk Factors in Al-Najaf City

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**Abstract-** A descriptive study is conducted at Al- Najaf City in Iraq on (540) secondary schools' adolescents which aims at constructing a causal model for the early detection of students' exposure to risk factors .The results depict that secondary school students are exposed to risk factors Which are directly linked to their behavior , families , schools and communities , and they experience psychological problems on a large scale which include suicidal ideation and suicide attempts. Furthermore, they also experience physical problems that include disabilities and genetic diseases. So, they do not receive adequate protective measures as result of the roles of government, school and their families.

**Index Terms-** Risk Factors, Model, Secondary School Students.

## I. INTRODUCTION

Adolescence is one of the most dynamic stages of a human development. It is accompanied by dramatic physical, cognitive, social and emotional changes that present both opportunities and changes for them, their families and their communities (Pickett, (2002) [1].

The United Nations Population Fund (UNFPA) defines adolescence as being between the age of 10 and 19, which is similar to the definition of the World Health Organization that adheres (Karunan, 2006) [2]. It is a critical period for development of healthy behavior and lifestyles (Newman, Harrison, Dashiff, and Davies, 2008)[3].

Adolescence begins with the onset of puberty. It is a transitional stage in a person's life between childhood and adulthood that differs according to culture. Theorists consistently report that the transition from childhood to adulthood is increasingly delayed and there is no defined point at which an adolescent becomes an adult. This had led many theorists to acknowledge three distinct stages consisting of early, mid and late adolescence. Adolescence has become increasingly characterized with complexity, uncertainty and risk through extended school to work transitions; difficulties entering the labor market and the reduced capacity for young adults to afford property outside the parental home (Harland and McCreedy , 2012 ) [4].

Adolescents may face many pressures and challenges, including growing academic expectations, changing social relationships with family and peers and the physical and emotional changes associated with maturation. This stage of life

marks a period of increased autonomy in which independent decision-making that may influence their health and health-related behaviors. Behaviors, which can be established during this transition period, can continue into adulthood, affecting issues, such as mental health, the development of health complaints, diet, and physical activity level. Research findings also show how young people's health changes as they move from childhood through adolescence and into adulthood. These can be used to monitor adolescents' health and determine effective health improvement interventions (Russell, Ozer, Denny, Resnick, Fatusi, and Currie, 2012)[5].

A huge proportion of the world's population more than 1.75 billion is young, aged between 10 and 24 years. Adolescents (aged 10 to 19 years) have specific health and development needs, and many face challenges that hinder their well-being, including poverty, a lack of access to health information and services, and unsafe environments. Interventions that address their needs can save lives and foster a new generation of productive adults who can help their communities' progress. This fact file explores topics of concern to adolescents and strategies to improve their health across the globe ( WHO, 2009) [6].

One in every five people in the world is an adolescent, and 85% of them live in developing countries. Nearly two thirds of premature deaths and one third of the total disease burden in adults are associated with conditions or behaviors that began in youth, including tobacco use, a lack of physical activity, unprotected sex or exposure to violence (4).It is a time of exploring a variety of new behaviors and a tendency to experimentation. While this experimentation is essential for development, it may lead to an increase in risky behaviors. The potentially negative health consequences of such behaviors (for example, smoking) are likely to be under- estimated by the adolescent (Sutton, 2004) [7].

Because high-risk behaviors can significantly impact the lives of adolescents and those around them, the health of adolescents has become a priority for every nation. In addition, research in this area finds that female adolescents are at greater risk of negative health outcomes (Pickett, K. (2002) [1].

Many adolescents engage in risk-taking behaviors that threaten their health, such as substance abuse. The relation between health behaviors and health protection is not clearly understood. Understanding of how specific health behaviors are associated with health may have implications for designing effective health promotion programs, so far, understanding the underlying motivations in order to practice healthy behaviors in

general Currie, Zanotti, Morgan, Currie, De Looze, Roberts, Samdal, Smith, and Barnekow, 2012)[8].

Risk factors have been broadly defined as “ those characteristics , variables, or hazards that, if present for a given juvenile , make it more likely that this juvenile , rather than someone selected from the general population , will develop a disorder ” Some risk factors are causally related to negative outcomes while others are simply correlated with negative outcomes . Risk factors for behavior problems occur throughout children’s development , and children face new risks as they mature and encounter new challenges . Children’s environments also become more complex as they grow older, making intervention more difficult. Some early risks have been repeatedly tied to many behavior problems in later childhood. Reducing these risks has the possibility to prevent the development of multiple problems. They can range from prenatal biological traits to broad environmental conditions that increase an individual’s vulnerability to negative developmental outcomes . Unintentional injuries , homicide , and suicide are leading causes of death in adolescence ( Small , and Luster , 1994 ) [9]

Adolescents engage in risk-taking behaviors that threaten their health, such as substance abuse. The relation between health behaviors and health protection is not clearly understood ( Eaton, Kann, Kinchen, Ross, Hawkins, and Harris, 2005)[10] .

Lots of research has been done on risky behaviors among adolescents but there is scarce information about risk factors that may affect adolescent as students. So , the presentation of their risk factors in a model that explains the causality is what the present study is attempt to achieve .

## II. METHODOLOGY

A multi stage sample of (540) students are selected throughout the use of probability sampling , and the sampling is divided into two stages :

**1. First stage :** a purposive sample of ( 36 ) secondary schools are selected from (143) total secondary schools in Al- Najaf city ; (18) schools in the North sector , and (18) schools in the South sector . Each of these sectors is divided into three areas , then ( 6 ) schools are selected randomly from each area : (3) secondary schools for boy and (3) secondary schools for girls .

**2. Second stage:** a simple random sample of (540) students is selected; (270) boys and (270) girls and divided into three age categories, such as early, middle, late adolescence. The collection of data is performed throughout the utilization of constructed questionnaire, and by means of interview with the subjects of the study sample in the schools. In order to achieve the early stated objectives, the data of the study were analyzed through the use of statistical package of social sciences (SPSS) version 16 through descriptive and inferential statistical analyses.

III. RESULTS

*Table 1. The Causal Relationship Between Risk factors , Protective , and Health Problems*

ANOVA for Regression Analysis						C.S. <sup>(*)</sup>
S.O.V.	Sum of Squares	d.f.	Mean Square	F	Sig.	
Regression	9.267	2	4.633			
Residual	18.386	537	0.03424	135.328	0.000	HS
Total	27.653	539				

**Predictors: (Constant), Risk Factors, protective Factors**

**Dependent Variable: Health Problems**

HS: Highly Significant at P<0.01(\*)

S.O.V. =Sources of Variation C.S.= Comparison Significant , d.f. = the degrees of freedom in the source , F = F-statistic .

*Table 2. The relationship between the Risk factors association with the Students , Family , School , and Community and The Roles of the Family , School , and Government with students' health*

ANOVA for Regression Analysis						C.S. <sup>(*)</sup>
S.O.V.	Sum of Squares	d.f.	Mean Square	F	Sig.	
Regression	9.70	7	9.70			
Residual	17.96	532	17.96	41.04	0.000	HS
Total	27.65	539				

**Predictors: (Constant), The role of government, The risk factors associated with the family, The risk factors associated with the student, The role of the school, The risk factors associated with the community, The role of the family, Risk school-related factors**

**Dependent Variable: Health Problems**

(\*) HS: Highly Significant at P<0.01

S.O.V. =Sources of Variation C.S.= Comparison Significant , d.f. = the degrees of freedom in the source , F = F-statistic .

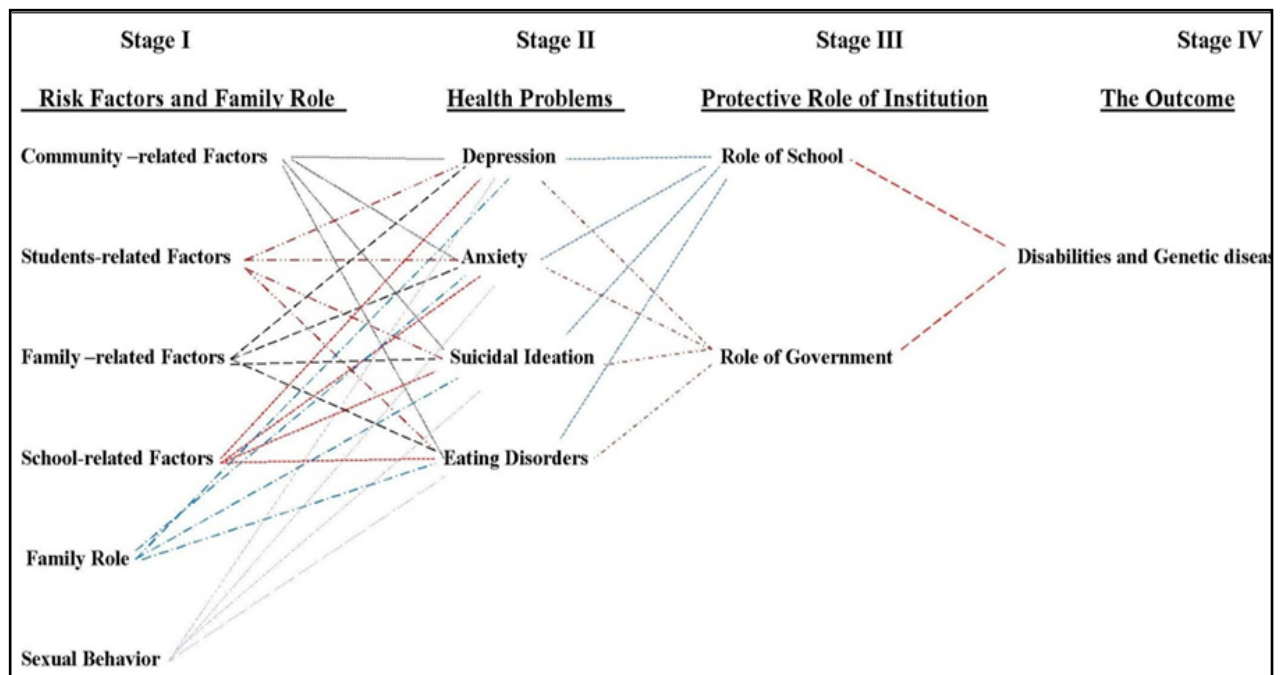
*Table 3. Principal Component Factor Analysis for the Construction of A causal Model for Early Detection of Secondary Schools Students' Exposure to Risk Extraction Method: Principal Component Analysis, Rotation Method: Quartimax with Kaiser Normalization, Rotation converged in 7 iteration*

Component Matrix	Components			
	One	Two	Three	Four
Students-related Risk Factors	0.720			
Family – related Risk Factors	0.719			
School-related Risk Factors	0.694			
Community –related Risk Factors	0.740			
Anxiety		0.764		
Depression (Transformed)		0.830		
Suicidal Ideation		0.748		
Eating disorder		0.696		
Sexual behavior	0.628			
Disabilities and Genetic Disease				0.680
The Role of The School			0.850	

The Role of The Family	0.653			
The Role of Government			0.843	
Initial Eigen Values	4.64	1.66	1.21	1.01
% of Covariance	35.70	12.78	9.31	7.77
Suggested Named For Construction of A causal Model for Early Detection of Secondary Schools Students' Exposure to Risk Factors	Risk Factors and The Family Role	Health Proble ms	The Role of the Instituti ons as Protecti ve Role	The Outcome

**Table 4. Extracted Factors matrix in Non Rotated method with the Suggested Named**

Component Matrix	Components
	One
<b>Risk Factors</b>	<b>0.886</b>
<b>Students' Health Problems</b>	<b>0.783</b>
<b>Protective Risk Factors</b>	<b>0.738</b>
<b>Initial Eigen Values</b>	<b>1.942</b>
<b>% of Covariance</b>	<b>64.728</b>
<b>Suggested Named</b>	<b>A causal Model for Early Detection of Secondary Schools Students' Exposure to Risk Factors</b>



**Fig 1. Causal Model for Early Detection of Secondary School Students' Exposure to Risk Factors**

#### IV. DISCUSSION

Analysis of a causal model testing approach for the construction of the model underlying the study depicts that students' risk factors and protective factors are found to have highly significant relationship with health problems (Table 1 and 2). So, these issues can be considered as different separate stages within the model.

Principle component factor analysis is performed for the determination of stages within the model (Table 3). It shows that variables for the first stage (Stage I) named "Students' Risk Factors and the Family Role" and its subdomains of community-related Factors, students-related risk factors, family-related risk factors, school-related risk factors, family role and sexual behaviors.

The second stage (Stage II) is named "Health Problems" which is comprised others subdomains of depression, anxiety, suicidal ideation and eating disorders.

Relative to stage three (Stage III) which is named "The Protective Role of Institutions" and it is consisted of two subdomains: The role of the school and the role of government. Regarding stage four (Stage IV) which is named "The Outcome" and it is comprised of subdomains of disabilities and genetic diseases.

Finally, the analysis depicts that the causal model for early detection of secondary school students' exposure to risk factors has three essential stages; stage I: Students' Risk Factors and the Role of Family, stage II: Students' Health Problems and stage III: Protective Factors, as well as an ultimate stage of the outcome (Table 3; Fig. 1).

In risk factors-related literatures, students' risk factors and the role of family have been addressed in a way that Risk factors are conditions that raise the probability that teenage will become involved in problem behaviors during teenage and young adulthood. They are personal characteristics or environmental conditions scientifically confirmed to increase the prospect of problem in behavior. It is a variable that must be associated with an increased probability of disorder and must antedate the onset of such disorder (Efobi, and Nwokolo, 2014)[11]; Egunisola, 2014)[12]; Mlowosa, Kalimang, and Dodo, 2014)[13]; Abesha, 2012)[14]; Gale, Lenardson, Lambert, and Hartley, 2012)[15]; Gorard and Davies, 2012)[16]; Schantz, 2012)[17]; Ahn, 2011)[18]; World Health Organization, 2011)[19].

Relative to students' health problems as an outcome of the risk factors (Shakir, 2014)[20]; Venkata, 2014)[21]; Goncalves, Moreira, Trindade, and Fiates, 2013)[22]; Khasakhala, Ndeti, Mutiso, Mwayo, and Mathai, (2012)[23]; WHO, 2012)[24]; WHO, 2011)[25] present evidence which has suggested that the current level of problems among students of such age is higher than in the past. The types of health problems that students might experience during their teenage years have included depression, anxiety, suicidal ideation, eating disorders and teenage pregnancy.

With respect to the protective role of institutions including schools and government, it has been reported that guidance and advising services are very important tools in human development especially during adolescent stage. Most of teenagers are in

secondary schools need to guidance and counseling services are seriously. Lack of guidance and counseling in adolescence has resulted to increase in unpleasant outcomes in the society (Mapfumo, and Nkoma, 2013)[26]. Furthermore, governmental role is very important in shaping the future of the youth of any country, this role must be done to adequately protect this important segment, the behavior of young people should be directed properly and that the strategies developed for this purpose (CDC, 2014)[27].

Concerning the outcome of the causal influence of the risk factors as disabilities and genetic diseases, it has been documented that adolescents living with chronic illness have significantly more obstacles to overcome, and these barriers may severely interfere with the normal tasks of adolescents and teenagers with study disabilities are especially at risk of committing delinquent acts. So, disability situation is significant to consider when examining teenager delinquency (Shandra and Dennis, 2012)[28].

#### V. CONCLUSION

In sum, the study has confirmed that the constructed model for the early detection of secondary schools students' exposure to risk factors has become subject for testing its existence in reality when future implication can be established in research and clinical practice.

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