

A Structural Model for Health Risk Behavior of Adolescent

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Abstract

This study was done to construct and test a structural model to explain health risk behavior of adolescents. Data for this study were secondary data from the 2010 Korea Adolescent Health Survey based and 7,187 middle and high school students who participated. Data were analyzed using SPSS 18.0 and AMOS 19.0 programs. The result showed that Risk behavior of physical activity & sleep is directly affected by 2 variables (27.6%), Risk behavior of smoking & drinking is directly affected by 1 variable (0.9%). The results of this study, indicate that adolescents' health risk behavior is affected by many factors with complicate correlations suggesting further study compare youth health risk behaviors in a variety of environments.

Keywords: Risk behavior , Home Environment, Adaptation, Maladjustment

1 Introduction

Many researchers have asserted that adolescent health is critical because this period is a transitional phase, with numerous external factors affecting individual health from puberty to early adulthood [1, 2].

The health behaviors of adolescents have been studied in several countries [3-7]. In Korea, some studies have explored adolescents' health behavior using the Youth Risk Behavior Survey [8,9].

Cultural differences and health beliefs need to be incorporated into health education programs in order to develop culturally sensitive health education [10].

This study were secondary analyzed using the 2010 Korea adolescent health survey based and 7,187 middle and high school students participated. Structured questionnaires which consist of questions regarding, parents of students interested in health, student's health concerns, family relationships, school level, parents' support, Home Environment, Psychological adaptation, Psychological maladjustment, Risk behavior of smoking & drinking, Risk behavior of physical activity & sleep.

For verifying fitness of the hypothesized model and hypothesis, a covariance analysis method was adopted.

This study was done to construct and test a structural model to explain health risk behavior of late adolescents.

2. Method

Data for this study were secondary data from the 2010 Korea Adolescent Health Survey based and 7,187 middle and high school students who participated. Data were analyzed using SPSS 18.0 and AMOS 19.0 programs.

3. Results

3.1 Hypothetical Model

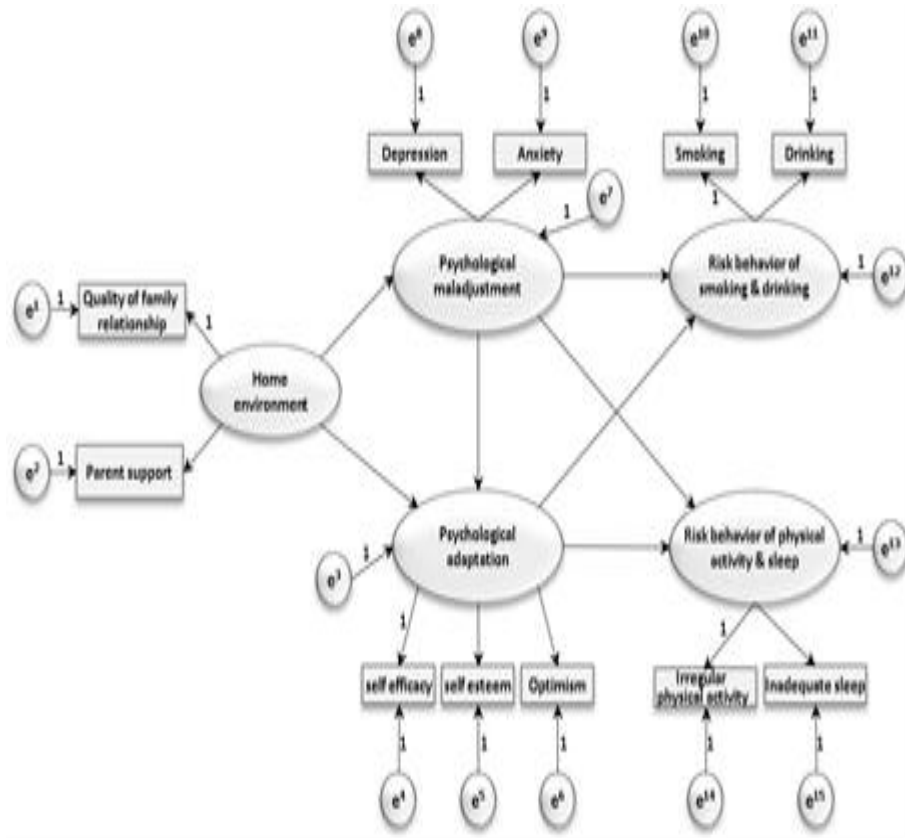


Figure 1. Hypothetical Model

3.2 Hypothetical Model Path Coefficient Estimates

Table 1. Hypothetical Model Path Coefficient Estimates

Endogenous variables	Exogenous variables	RW	SE	SRW	C.R(t)	<i>p</i>	SMC
Psychological maladjustment							.079
	Home Environment	-.205	.010	-.281	-19.622	<.001	
Psychological adaptation							.315
	Home Environment	.267	.008	.479	31.697	<.001	
	Psychological adaptation	-.143	.011	-.188	-13.159	<.001	

Risk behavior of smoking & drinking						.009
Psychological maladjustment	.000	.001	-.002	-.146		.884
Psychological adaptation	.005	.002	.094	2.768		.006
Risk behavior of physical activity & sleep						.276
Psychological maladjustment	.159	.012	.489	13.028		<.001
Psychological adaptation	-.038	.012	-.090	-3.100		.002

RW= Regression Weights; C.R.= Critical Ratio; SRW= Standardized Regression Weights; SMC= Squared Multiple Correlation

3.3 Modified Model

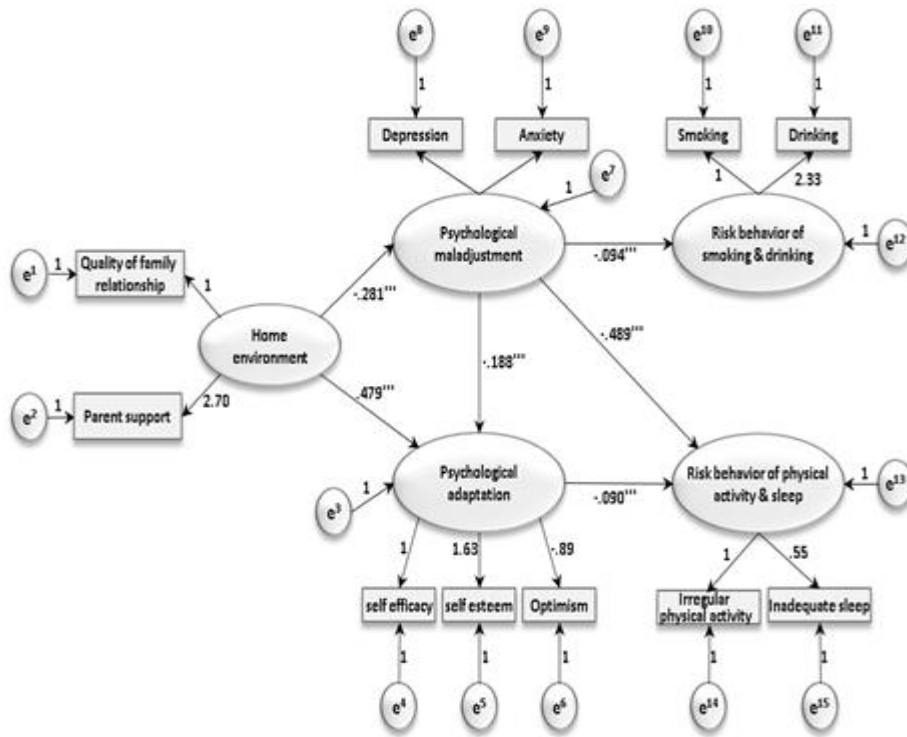


Figure 2. Modified Model

3.4 Modified Model Path Coefficient Estimates

Table 2. Modified Model Path Coefficient Estimates

Endogenous variables	Exogenous variables	RW	SE	SRW	C.R(t)	<i>p</i>	SMC
Psychological maladjustment							.079
	Home Environment	-.205	.010	-.281	-19.619	<.001	
Psychological adaptation							.315
	Home Environment	.267	.008	.479	31.692	<.001	
	Psychological adaptation	-.143	.011	-.188	-13.165	<.001	
Risk behavior of smoking & drinking							.009
	Psychological maladjustment	.000	.001	-.002	-.146	.884	
Risk behavior of physical activity & sleep							.276
	Psychological maladjustment	.159	.012	.489	13.028	<.001	
	Psychological adaptation	-.038	.012	-.090	-3.100	.002	

RW= Regression Weights; C.R.= Critical Ratio; SRW= Standardized Regression Weights; SMC= Squared Multiple Correlation

3.5 Effects of Modified Model

Table 3. Effects of Modified Model

Endogenous Variables	Exogenous variables	Direct effect	Indirect effects	Total effects
Psychological adaptation	Home Environment	-.281***		-.281**
	Home Environment	.479***	.053**	.532**
Psychological maladjustment	Psychological adaptation	-.188***		-.188**
	Home Environment		-.185**	-.185**
Risk behavior of physical activity & sleep	Psychological maladjustment	.489***	.017	.506**
	Psychological adaptation	-.090**		-.090
	Home Environment		-.026**	-.026**
Risk behavior of smoking & drinking	Psychological maladjustment	.094**		.094**
	Home Environment		-.026**	-.026**

* $p < .05$ ** $p < .01$ *** $p < .001$

3.5 Goodness of Fit Test of Hypothesis Model & Modified Model

The overall fitness indices of the hypothetical model satisfied the fitness criteria ($\chi^2=520.474$, $p < .001$, GFI=.987, SRMR=.033, RMSEA=.043, NFI=.932, IFI=.937, CFI=.936, TLI=.905, AIC=578.474). However, there were one paths that were not statistically significant in the fitness criteria after removing those one paths ($\chi^2=520.492$, $p < .001$, GFI=.987, SRMR=.033, RMSEA=.042, NFI=.932, IFI=.937, CFI=.936, TLI=.908, AIC=576.492).

Table 4. Goodness of fit test of hypothesis model & modified model

Suitable Index	Absolute fit indices						Model Comparison Index					Prediction fit indices
	χ^2	df	p	χ^2/df	GFI	SRMR	RMSEA	NFI	IFI	CFI	TLI	

		LO 90 HI 90									
Fitness standards		>	<.20	≥.90	<.10	<.08	≥	≥	≥	≥	
		.05					.90	.90	.90	.90	
Hypothesis model	520.	<	14.			.043					
	474	37	.001	.067	.987	.033	.932	.937	.936	.905	578.474
						.039	.046				
Modified model	520.	<	13.			.042					
	492	38	.001	.697	.987	.033	.932	.937	.936	.908	576.492
						.039	.045				

The result showed that risk behavior of smoking & drinking is directly affected by the psychological maladjustment and the interest factors are explained by these variables by 0.9%.

The result showed that risk behavior of physical activity & sleep is directly affected by the psychological adaptation and psychological maladjustment, the demographic factors are explained by these variables by 27.6%. It was shown that the most significant variable directly affecting risk behavior of physical activity & sleep is the amount of the psychological maladjustment.

4 Conclusions

Based on the results of this study, I suggest following that need to be analyzed by separating the academic and vocational subjects, as well as the youth in the community outside of school.

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