Analysis of Psychological Health and Related Variables According to Gender and Age Among Adolescents

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ABSTRACT

In recent years, it has been widely witnessed that a surprising number of adolescents suffer emotional and mental health problems, and such turmoil is very often carried over into adulthood with serious implications for adjustment during the post-adolescent years. On this point, mental health problems in Korea are only now being considered crucial factors in the health status of adolescents and important public and social issues. It is also true that studies concerning the link between adolescents' mental health problems and their psychology are limited. The purposes of this study were to investigate mental health problems of Korean adolescents, to reveal factors affecting their negative mental health and to explore a possible relationship between mental health problems and psychological variables. 2,052 Korean adolescents selected randomly from junior high and high schools in Seoul, Korea were surveyed. Korean Symptom Checklist, Health Locus of Control Scale, Self-efficacy Scale and Self-esteem Scale were used to identify mental health problems and psychological variables of adolescents. Results indicated that Korean adolescents showed high prevalence in interpersonal sensitivity, depression, anxiety and hostility. In addition, the findings revealed that there were significant differences in adolescents' mental health problems between gender and age. Furthermore, results revealed that the adolescents' mental health problems were statistically correlated with psychological variables. This study provides significant information for the relatively unstudied Korean adolescents and also has the potential to influence the development of better mental health programs for adolescents.

INTRODUCTION

In recent years, it has been widely noted that a surprising number of adolescents suffer emotional and mental problems. Of added importance is the fact that such turmoil is very often carried over into adulthood with serious implications for adjustment during the post-adolescent years. Mental health problems presenting during the adolescent years may represent a persistence of problems that arose in childhood or the onset of new illness. These mental health problems generally include interpersonal sensitivity, loneliness, depression, anxiety, hostility, and are sometimes associated with suicide[1,2]. Raphael reported that anxiety, depression and adjustment problems were the major mental health problems that occurred frequently during adolescence. Within adolescent health, mental health is an issue and the behavioral outcomes of this issue are reflected in the mortality and morbidity statistics. [3]. McCauley et al. investigated gender differences in American adolescents' mental health. The authors in this study indicated that female adolescents reported significantly lower level of self-confidence and substantially higher level of depression and anxiety than did males[4]. Adolescent mental health is as important in Korea as it is in Western countries. Korean Ministry of Health and Welfare reported that the patient numbers due to mental health problems had increased steadily each year since 1985[5]. Females were twice as likely to suffer mental health problems as males. And, in the adolescent group, the number of patients with mental health problems doubled between 1994 and 1995.

Adolescent mental health problems not only depend on issues of appropriate socialization and on factors of positive environmental conditions, but also on the individual's perception of what is real to them. In this regard, Kim indicated that adolescents' mental health problems may result from peer group pressures, family situations, school problems, and more importantly their own psychological dispositions[6].
Mental health itself is a complex multi-factorial reality and the overt expression of a complicated interaction of physical, social and psychological factors[7]. Therefore, factors that impinge upon and effect the mental health of adolescents can be related to issues from the emotional, social, psychological and behavioral domains. In particular, mental health problems of adolescents may be caused by negative psychological propensity, such as low self-esteem and self-efficacy and loss of ability to control health[8].

Self-esteem is widely recognized as a central aspect of psychological functioning and it is related to many other variables, including general satisfaction with one's life. According to Kalliopuska (1990), self-esteem is part of

the individual's identity that is not static, but rather, is always susceptible to internal and external influences. He also suggests that self-esteem is an internal sense of self-regard, which includes confidence in one's own abilities and judgments, and it serves as a measure of the self-praise and the favorable perspective with which a person attributes to himself. Rosenberg argued that self-esteem was associated with many psychological variables as well as behavioral ones. He suggested, for example, that when compared to adolescents with high self-esteem, those with low self-esteem were more depressed, less satisfied with life and scored highly on anxiety, aggression and irritability[9]. Bolognini and colleagues noted that self-esteem was a determining variable in the mental health of early adolescence and that adolescents with low self-esteem tended to report significantly higher scores on depression. Bolognini et al. also revealed that males demonstrated a higher correlation between self-esteem and mental health than did females. Females, however, reported more problems with depression and anxiety than males[10].

Self-efficacy was introduced by Bandura in the context of cognitive modification[11]. Self-efficacy relates to "individuals' perceptions and refers to beliefs that people can perform successfully the behavior necessary to produce a desired outcome"[12]. Rivas and Fernandez indicated that self-efficacy was an important factor in maintaining the mental health of adolescents. Specifically, higher self-efficacy was closely related to avoidance of sadness and control of one's feelings. This study also implied that self-efficacy was significantly and positively correlated with maintenance of self-confidence and underlined the importance of taking psychological factors into account in the design of mental health programs[13]. Muris et al. investigated the relationships between adolescents' depression and self-efficacy in the Netherlands. In this study, depression was accompanied by high levels of negative attributions and low levels of self-efficacy. Findings implied that self-efficacy played a meditating role in the decrease of depressive symptoms[14].

Health Locus of Control (HLC), as a psychological construct, originated from Rotter's social learning theory which sought to explain, predict and influence people's perception and behavior regarding their health. The main tenet of social learning theory is that the likelihood of a behavior occurring in a given situation is a function of (a) the individual's expectancy that the behavior will lead to a particular reinforcement and (b) the extent to which the reinforcement is valued[15]. In exploring the relationship between mental health and health locus of control, Nada-Raja et al. examined health beliefs of adolescents regarding mental health. In this study, male students had stronger and simultaneous beliefs in internal, chance and powerful others' locus of control than females. Females differed significantly from males in that they believed good mental health was associated with external locus of control[16]. The recent study by Takakura and Sakihara examined locus of control associated with adolescents' depressive symptoms. The results noted that adolescents' depression was positively associated with internal health locus of control and negatively related to powerful other and chance locus of control. Further, authors argued that high levels of internal locus of control might have a crucial role in the prevention of depression in adolescence[17].

In this regard, psychological factors that influence the mental health of adolescents in different cultures have frequently been identified. However, the same level of research has not been carried out on the Korean adolescent population. Mental health problems, especially in Korea, are only now being considered crucial factors in the health status of adolescents and important public and social issues. It is also true that data concerning the link between adolescents' mental health and their psychology are limited. The purposes of the study were to explore the mental health problems of Korean adolescents, to reveal variables affecting their negative mental health and to explore a possible relationship between mental health problems and psychological factors.

METHODS

Participants

After receiving permission from the principals and parents, 2,200 students (male:1,146, female: 1,054) ranged from 7th to 12th grade who attended junior high and high schools in Seoul, Korea were asked to participate in a survey designed to assess their mental health problems. Out of a possible 2,200, 2,052 students (male:1,068, female: 984) were invited to participate in the study; 93.3% gave their consent and completed the survey form. Only 6.7% of the subjects declined participation. The non-participants were not significantly different in age or gender from students who participated. The subjects were selected by a random sampling from six schools, geographically located in the northern areas of Seoul. All students in the age cohort were 14-19 yrs (M=16.0 yrs).

Measures

For the mental health of Korean adolescents, the instrument applied in the study was Korean Symptom Checklist[18]. This consisted of 4 sub-dimensions and 38 items (9 items for interpersonal sensitivity, 13 items for depression, 10 items for anxiety, 6 items for hostility). For content validity of the instrument four experts familiar with the health behavior literature were asked to examine each item for congruence with the concept of mental health problems. From their recommendations, 7 items were altered. Through this process, content validity

suitable to the purposes of the study was established. The instrument was given to a pilot sample of 156 secondary school students (male: 88, female: 68) of the similar age to the target sample to obtain reliabilities of the instrument. The obtained data were analyzed for internal consistency on the first administration and for stability on a repeat administration to 64 students in the same sample 2 weeks later. This process obtained test-retest r for the four sub dimensions: .80 for interpersonal sensitivity, .90 for depression, .91 for anxiety and .84 for hostility.

To assess Korean adolescents' beliefs, self-reliability and ability to control health and life satisfaction relating to health, the three instruments translated by Kim were used : Health Locus of control Scale, Self-efficacy Scale and Self-esteem Scale[6]. The Multidimensional Health Locus of Control Scale, developed by Wallston et al., was translated into Korean and used in the study. The revised questionnaire consisted of the three sub-scales and 18 items, and alpha reliabilities of each sub-scale were .83 for internal health locus of control, .79 for powerful other health locus of control, and .81 for chance health locus of control[19].

The Self-efficacy Scale, developed by Sherer et al., was also revised into a Korean version and adopted for the study[20]. Among 17 items, 13 items were reversed requiring the scores to be converted. A Cronbach alpha coefficient of .88 was reported for this questionnaire. The Korean version of the Self-esteem Scale, originally developed by Rosenberg was applied to the study. This questionnaire consisted of 10 items, and five reversed items required scores to be converted. The test-retest reliability method was performed and a reliability of .83 was obtained[21].

The psychometric instruments were sent out to four Korean experts familiar with the health psychology and adolescent health to obtain their comments regarding content and construct validity. They were then asked to check and make suggestions for improving the instruments. From their recommendations, the wording of 11 items was changed in the three psychometric instruments. Through this process, content validity, suitable to the purposes of the study, was established. The pilot forms of the psychometric instruments were translated into Korean, and given to a sample of 156 secondary school students to evaluate item clarity and response variance. Examination of frequency distributions indicated that the full range of responses was being used for most items. The students completed the survey with no difficulties in understanding the items.

RESULTS

Mental health of Korean adolescents in this study

Table 1 shows the result of frequency analysis concerning Korean adolescents' mental health problems. Korean adolescents with 74.3% responded that they have frequently experienced 'interpersonal sensitivity' and 56.9% of adolescents have felt 'depression', 48.8% for 'anxiety' and 41.6% for 'hostility' owing to a variety of daily stresses including school. Considering the high prevalence in all sub dimensions, negative mental health in the Korean adolescents is a crucial factor that might adversely affect their overall health.

Table 1. Prevalence of mental health problems among respondents

Mental Health Problems		Case (N)	Percent (%)
Interpersonal sensitivity	Experienced	1,524	74.3
	Never experienced	528	25.7
Depression	Experienced	1,167	56.9
	Never experienced	962	43.1
Anxiety	Experienced	1,001	48.8
	Never experienced	1,051	51.2
Hostility	Experienced	853	41.6
	Never experienced	1,199	58.4
Total		2,052	100.0

Cut-off point : Never experienced: not al all(1)

Experienced: seldom(2), occasionally(3), often(4) and repeatedly(5)

In addition, there were significant mean differences between male and female adolescents in all sub dimensions of mental health problems. Female adolescents reported that they have higher scores on 'interpersonal sensitivity'(t=16.40), 'depression'(t=15.62), 'anxiety'(t=9.89) than males; meanwhile, males have more frequently experienced 'hostility'(t=8.92), compared with their female counterparts (all p<.001). (See Table 2)

Table 2. Mean and SD of mental health problems by gender

	Male		Female		
Variable	M	SD	M	SD	t
Interpersonal sensitivity	3.23	.73	3.89	.79	16.40*
Depression	3.30	.79	4.02	.83	15.62*
Anxiety	3.49	.65	3.76	.57	9.89*
Hostility	3.32	.49	3.03	.62	8.92*

*p<.001

Table 3 shows the mean differences in the sub dimensions of mental health problems by age (F=14.63 for interpersonal sensitivity, F=6.59 for depression, all p<.001). Adolescents aged 18-19 years reported that they have most frequently experienced 'interpersonal sensitivity' and 'depression' in the three age groups, although there were no statistical differences in 'anxiety' and 'hostility' by age.

Table 3. Mean and SD of mental health problems by age

	14-15(yr)		16-17(yr)		18-19(yr)		
Variable	M	SD	M	SD	M	SD	F
Interpersonal sensitivity	3.43	.68	3.62	.55	3.92	.73	14.63*
Depression	3.40	.71	3.53	.80	3.71	.76	6.59*
Anxiety	3.55	.77	3.54	.74	3.54	.75	2.10
Hostility	2.89	.62	2.87	.59	3.01	.60	.88

*p<.001

Correlation between mental health and psychological variables

Correlation analysis was conducted to identify the relationships of psychological variables to the sub dimensions of adolescents' mental health. Results revealed that all the sub domains of psychological variable were significantly correlated with almost all sub dimensions of mental health. Among them, IHLC was strongly correlated with 'depression'(r=-.44), 'interpersonal sensitivity' (r=-.35) and 'anxiety'(r=-.35). PHLC also had substantial correlations with 'interpersonal sensitivity' and 'anxiety' (r=.24 and .15, respectively), meanwhile CHLC was significantly correlated with 'hostility'(r=.21). Furthermore, the results indicated that the self efficacy construct was strongly correlated with 'depression'(r=.43), 'anxiety'(r=.37) and 'hostility'(r=.26). In the case of self-esteem, there were significantly correlations with 'depression', 'anxiety' and 'hostility', 'interpersonal sensitivity' (r=.39, .39, .29 and .26, respectively).

Table 4. Correlation among all variables

Variable	IS	D	An	H	IHLC	PHLC	CHLC	SE_f	SEs
IS	1.00								
D	.42**	1.00							
An	.33**	.36**	1.00						
H	.34**	.56**	.14*	1.00					
IHLC	-.35**	-.44**	-.35**	.07	1.00				
PHLC	.24**	.06	.15*	.08	.05	1.00			
CHLC	.04	.06	-.08	.21**	.08	.36**	1.00		
SE_f	.05	.43**	.37**	.26**	.21**	-.11*	-.15*	1.00	
SEs	.26**	.39**	.39**	.29**	.24**	-.16*	.05	.58**	1.00
M	3.13	3.45	3.58	3.15	4.55	3.38	3.36	8.32	2.83
SD	.72	.76	.80	.62	.79	.69	.65	1.57	.48

*p<.05; **p<.001

IS: Interpersonal Sensitivity; D: Depression; An: Anxiety; H: Hostility; IHLC: Internal Health Locus of Control; PHLC: Powerful other Health Locus of Control; CHLC: Chance Health Locus of Control; SE_f: Self-Efficacy; SEs: Self-Esteem.

DISCUSSION

This study provides much needed information about Korean adolescents in terms of their mental health issues and aspects of psychological constructs which relate directly to negative mental health. It further explored the relationship of these constructs to negative mental health, all of which are the foci of this research.

The study identified that Korean adolescents in this study had a problem with their mental health. Almost half of adolescents experienced depression, anxiety and hostility. It might be possible to explain that such mental health problems are because of too much stress about study, parents' excessive expectation and demand and exclusion from a peer group. 74.3 percent of respondents reported that they have experienced interpersonal sensitivity. It could be possible to interpret that many adolescents alone in modern society have tended to spend considerable time with computers and as a result, they are likely to be egocentric and fail in building meaningful interpersonal relationships. This could not be substantiated from literature and thus, there is a need for further study to see whether it is an aspect of Korean culture. Many Western studies support this study's findings. According to Nancarrow[22]., a large volume of students was concerned with general mental heath problems. The results showed that an estimated 53% of students were concerned about feeling depressed; 50% were concerned about emotional upsets; and, 48% had negative feeling about themselves or aspects of their life. Such negative issues in adolescent mental health are not confined in one society, but applied in all societies around the world. These findings should provide effective data to promote adolescents' mental health in school health education and community-based health care.

From the findings, there were significant differences between male and female adolescents in all dimensions of mental health problems. Compared with their male counterparts female adolescents scored highly in interpersonal sensitivity, depression and anxiety. It is generally recognized that female adolescents in or over puberty tend to have an emotional disposition and hence are likely to be sensitive to the common events in everyday life. This result was supported by the findings of McCauley et al. (1999), indicating that female adolescents were more likely to be anxious and depressed than males[4].

In addition, adolescent' mental health was in part different between the three age groups. Of the three groups, adolescents aged 18-19 years reported that they have most frequently experienced interpersonal sensitivity and depression. It is not unexpected that older adolescents have a higher possibility of experiencing mental health problems than younger adolescents. Mental health itself is a complex concept, and the specific components of mental health are elusive and intangible elements. In addition, these mental health problems depend on people' perceptions and behaviors through their interactions in and with their environment. In this regard, the result about age difference can be explained that in a developmental viewpoint, older adolescents, in general, have experienced a variety of negative and uncomfortable events through their lifetime than adolescents in early and middle adolescence. This could not be substantiated from the literature and thus, there is a need for further study to see whether it is an aspect of Korean culture.

On the basis of these findings, this study has the potential to influence the development of better mental health care and mental health promotion programs for adolescents. More importantly, the findings of this study suggest that nurses should take a more assertive role in promoting and designing risk reduction interventions congruent with the values and perceptions of Korean adolescents.

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