



PERCEIVED HEALTH RISKS AND HEALTH LOCUS OF CONTROL

YoungHo Kim*¹

¹*Professor, Department of Sport Science, Seoul National University of Science and Technology, Korea.

This study was supported by the Research Program funded by the Seoul National University of Science and Technology.

KEYWORDS: Health Risk, Risk Perception, Locus of Control.

ABSTRACT

The purpose of the study was to investigate adolescents' unrealistic perception to health risks and to identify its relationship with health locus of control. 425 adolescents randomly selected from 5 junior-high and high schools in Kyunggi-do, Korea were the subjects used in this study. Data gathered through the use of the modified Self and Other Risk Rating Scale and Multidimensional Health Locus of Control. Results indicated that adolescents tended to have unrealistic perceptions about their vulnerability to the overall health risks and perceived their likelihood of health mishap as lower than that of others in the same age. In addition, the findings identified that powerful-other health locus of control and chance health locus of control were significantly correlated with all sub dimensions of health risks. This study will be useful in designing health risk reduction interventions congruent with perceptions of adolescents.

INTRODUCTION

Adolescence is generally thought of as a time when decisions are made concerning involvement in negative behaviours which may directly or indirectly affect immediate or long-term health status. Examples of such behaviours include diet, substance abuse including drugs, alcohol and tobacco, and sexual activity. The decision to experiment and possibly engage in the negative behaviours may well be dependent on a variety of factors such as their achieved maturity, gender, environment, and most importantly their own risk perceptions to health.

Risk perception has been defined in a variety of ways such as perceived risk¹); perceived vulnerability²); and as a belief that one is susceptible to future negative outcomes and unprotected from danger or misfortune³). According to Gough, perceived risk is the individual or group evaluation of the risk likely to result from a certain activity. Risk preferences are used to infer perceived risk. In other words, perceived risk is the individual or group's judgment or valuation of the magnitude and likelihood of possible negative outcomes which may result from an action.⁴) Weinstein indicated that perceived vulnerability has emphasized either a cognitive or an affective component of perceived risk and has also been treated as an emotional response to the possibility of victimization, such as fear, worry or concern⁵).

Given these concepts related to the risk construct, a ready explanation for why people take risks is that they ignore or at least greatly underestimate the likelihood of negative outcomes. A popular account of such perceptions is that people under-evaluate their health risks, and that most people tend to view their own chances of the risks as lower than those



of other people. Such beliefs about personal risk often turn out to be unrealistic perception. Unrealistic perceptions on health risks occur simply because they are unaware of major risk factors or because people overlook relevant factors. In addition, Taylor and colleagues indicated that optimistic bias is due to unmotivated cognitive errors and to the motivation to avoid anxiety. Such motivations may lead people to exaggerate the health-threatening behaviors of their peers, and result in low and self-efficacy and high external locus of control on health because of different causal attributions for the negative health events⁶).

Specially, in this regard the rationale for focusing on adolescent's perception issues becomes obvious when it is clearly accepted that adolescence is a key life stage in the formation of perception to health risk, and the major sources of health risk perception during adolescence are examined. Moore and Rosenthal investigated risk perceptions of adolescents aged 17 to 19 years in five health-related areas, such as AIDS, sexually transmitted diseases, serious car accidents, lung cancer and skin cancer. The results noted that adolescents underestimated themselves for each of the negative health events to be less than other students with same age and gender⁷). In the latest study, Arnett argued that the majority of adolescents agreed that smoking is addictive and causes death for most people who smoke. However, for themselves personally, adolescent smokers were more likely than non-smokers to doubt that they would die from smoking even if they smoked for 30 or 40 years. Furthermore, 60 % of adolescent smokers believed that they "could smoke for a few years and then quit" if they wished, figures far higher than for nonsmokers⁸). This study concluded that an unrealistic perception regarding smoking risks appears to be held by adolescents, especially regarding addiction.

Factors that impinge upon and effect risk perceptions of adolescents can be related to issues from the psychological and behavioural domains. Specially, unrealistic health risk perceptions of adolescents may be caused by negative psychological propensity, such as external health locus of control and loss of ability to control health⁹). In this regard, available data have been shown the significant relationships between health locus of control and health risk perceptions. According to Perloff, if people believe that their skills and abilities to control health risks are better than those of others, then they will also believe that they will more effectively reduce health risks than other people. As health risks are perceived as controllable, this belief must lead to unrealistic optimism. An alternative explanation may be that people who believe that they are in control of their own health show more health protective behaviours than people who believe things are controlled by chances or powerful others¹⁰). In addition, Horrens and Buunk examined a relationship between locus of control and unrealistic optimism. The results showed that students with generalized internal control reported more optimism over specific health risk events than students with external locus of control¹¹). This study was consistent with Guarnera and Williams's study with the adult samples¹²).

In this regard, health risk perception of adults and its relationships with psychological factors have frequently been identified. However, the same level of research has not been focused on the adolescent populations. The health-related issues in adolescence, especially in Korea, are only now being considered crucial factor and the important public and social domains. Within this context, this study aims to contribute to the body of literature in adolescent health by identifying adolescent perceptions on health risks and examining the possible relationships of selected variables to



adolescent. Therefore, the present study investigated unrealistic health risk perception of adolescents and examined the relationships between health locus of control and unrealistic health risk perceptions.

METHOD

Participant

After receiving permission from the principals and parents, 425 Korean students ranged from 7th to 12th grade (male:231, female:194) who attended junior high and high schools in KyungGi-Do, Korea were participated in the study. The subjects were selected by a random sampling from six schools, geographically located in mid-range socioeconomic areas of KyungGi-Do. All students in the age cohort were 14-19 yrs (M=16.2yrs).

Measures

For assessing the self and other risk perceptions of adolescents, the instrument used in this study was a modified version of self and Other Risk Questionnaire that individuals might experience in their future lives. Sixteen health risk events from the Self-Other Risk Judgment Profile¹³) were used, and a further eight items added. These added items were selected on the basis of lifestyle events and health-risk reference that adolescents might experience in the future^{14) 15}). A total of 24 health risk events, listed in random order, were finally used in this study as a tool for assessing self and other risk perceptions and perception bias. This questionnaire was divided into three sub domains: General Health; Lifestyle; and, Environment. For each event in each sub dimension subjects were asked to indicate the likelihood of themselves or others being exposed to or suffering from the described events. This study used a 5-point scale that ranged from -2 (very unlikely) to 2 (very likely), and emphasized the comparative aspect of the risk judgments. To determine the coefficient of internal consistency of the modified Self and Other Risk questionnaire, data were collected from 60 secondary school students in Seoul. From the data, a coefficient of .75 was achieved.

To assess adolescents' ability to control health, Multidimensional Health Locus of Control Scale¹⁶) was used in this study. This instrument consisted of 18 items which provided measures of three sub-scales (internality, powerful others and chances). The technique of summated ratings was used and numerical value was assigned for each of the six possible answers from "strongly disagree" (1) to "strongly agree" (6). The three sub dimensions of Korean questionnaire were statistically independent, and therefore the alpha reliabilities for the three sub dimensions were separately presented as below: .77 for the internal control items; .67 for the powerful others items; and, .75 for the chance control items.

RESULTS

Adolescents' perceived health risks

Table 1 presented the mean comparative health risk ratings for all 24 events. In this result, a mean less than zero indicates an unrealistic perception, that is to say, a tendency to underestimate that their own vulnerability is lower than that of others in the same age range. All adolescents were clearly optimistic about their own risk compared with their own chances of encountering a wide array of health events as substantially lower than the chances of other adolescents. Paired t-tests revealed significant unrealistic perception between self and other ratings for all events ($P < .01$). Among



the 24 events, some events showed a high unrealistic perception (e.g., cigarettes $t=13.66$, drugs $t=13.56$, alcohol $t=12.81$, unhealthy foods $t=12.78$, broken bone $t=-10.78$, AIDS $t=-10.61$ and drink-driving $t=10.58$).

Table 1. Differences in perceived health risks by self and other rating

Variable	Self-Risk Rating		Other-Risk Rating		t-Value
	M	F	M	F	
Health Domain					
Broken bone	-0.35	1.36	0.68	1.09	-10.78*
AIDS	-1.40	1.04	-0.47	1.27	-10.61*
Cancer	-1.01	1.20	-0.40	1.26	-7.15*
Diabetes	-1.05	1.20	-0.37	1.29	-6.92*
Serious auto injury	0.63	1.28	0.02	1.19	-6.17*
Heart attack	-1.11	1.20	-0.61	1.22	-5.63*
Tooth decay	0.05	1.30	0.55	1.20	-5.05*
Flu	0.68	1.27	1.08	1.09	-4.15*
Lifestyle Domain					
Smoke cigarettes	-1.15	1.47	0.38	1.35	-13.66*
Take illicit drugs	-1.47	1.49	-0.08	1.03	-13.56*
Too much alcohol	-1.22	1.45	0.48	1.20	-12.81*
Unhealthy foods	-0.40	1.17	1.00	1.41	-12.78*
Drink-driving	-1.44	1.43	-0.34	1.04	-10.58*
Too little exercise	-0.48	1.18	0.64	1.45	-9.95*
Obesity	-1.16	1.34	-0.37	1.13	-8.73*
Attempted suicide	-1.27	1.33	-0.50	1.17	-8.24*
Too much stress	-0.03	1.17	0.71	1.44	-7.26*
Environment Domain					
Toxic waste	-1.32	1.05	-0.70	1.12	-7.82*
Chemicals in food	-1.09	1.13	-0.47	1.27	-7.18*
Homicide victim	-1.30	1.08	-0.71	1.22	-6.87*
Acid rain	-1.18	1.11	-0.66	1.30	-6.45*
Fire	-0.93	1.18	-0.33	1.20	-6.36*
Big earthquake	-1.22	1.17	-0.74	1.24	-5.09*
Air pollution	-0.57	1.32	-0.11	1.33	-4.96*

* $P < .01$

The Relationships between perceived health risks and Health Locus of Control



In examining the relationships between unrealistic health risk perception and health locus of control, correlation analysis and multiple regression analysis were performed. Table 2 presented the correlations between all variables of unrealistic health risk perception and health locus of control. For the health domain, unrealistic perception increased with CHLC. Greater unrealistic perception in the lifestyle domain was found to be significantly associated with PHLC and CHLC. In the case of environment domain, unrealistic perception increased with PHLC.

Table 2. Correlations of Health Risk with Health Locus of Control

	IHLC	PHLC	CHLC
Health domain	-.04	-.01	.15*
Lifestyle domain	-.09	.15*	.20**
Environment domain	.03	.16*	.02

* $P < .05$, ** $P < .01$

DISCUSSION

This study showed that adolescents tended to have unrealistic perceptions about their health risks across all risk events. Adolescents generally believed that their own chances of experiencing harm were less than the chances of others in the same age group. These findings were consistent with previous studies (17)(18), indicating substantial levels of optimism across a wide range of health and environmental risks.

Especially notable was the differentiation in levels of unrealistic perception in the lifestyle domain between self-risk rating and other-risk rating (e.g., cigarettes, drugs, alcohol, unhealthy food and drink-driving). It can be interpreted that adolescents were the most unrealistically optimistic about their comparative chances of avoiding the leading threats to their health, and many adolescents did not regard their behaviours as extremely risky and unsafe. Adolescents also were not aware of how to access information or help for their health problems and concerns and it was possible that many adolescents were victims of harmful health habits as a result of negative peer pressure and a lack of skills necessary to successfully negotiate the transition from childhood to adulthood. In terms of the links between unrealistic perception and health locus of control, the current findings showed that unrealistic perception was statistically correlated with external health locus of control, but not related to internal locus of control. According to several pieces of research (19)(20), perceived control or a cognitive expectancy was a potential factor which influences the vulnerability of people. Locus of control influenced coping activities and emotional response to the health risks and especially, internal locus of control can minimize unrealistic perception and its negative effects on the health risks.

An important aspect of this study lies in the fact that it provides significant information, specifically information not previously obtained for risk perception related to Korean adolescents' health. This study has the potential to influence development of better health education and promotion programs for adolescents. More importantly, the findings of this study will be useful in designing health risk reduction interventions congruent with perceptions of adolescents.



REFERENCES

1. Ellen, J.M., Boyer, C.B., Tschann, J.M. and Shafer, M.A., Adolescents' perceived risk for STDs and HIV infection, *Journal of Adolescent Health*, Vol. 18, 172-181, 1996.
2. Perloff, L.S. and Fetzer, B.K., Self-other judgments and perceived vulnerability to victimization, *Journal of Personality and Social Psychology*, 50, 502-510, 1986.
3. Janoff, R. and Lang-Gunn, L., Coping with disease and accidents: the role of self-blame attributions, in: L.Y. Abramson (Ed) *Social-Personal Influence in Clinical Psychology* (New York, The Guilford Press), 1988.
4. Gough, J.D., A Review of the Literature Pertaining to Perceived Risk and Acceptable Risk and the Methods Used to Estimate Them, Information paper No. 14, Center for Resource management, (New Zealand, Lincoln University), 1990
5. Weinstein, N.D., Unrealistic optimism about future life events, *Journal of Personality and Social Psychology*, Vol. 39, 806-820, 1980.
6. Taylor, S.E., Kemeny, M.E., Aspinwall, L.G., Schneider, S.G., Rodriguez, R. and Herbert, M., Optimism, coping, psychological distress, and high-risk sexual behavior among men at risk for acquired immune deficiency syndrome, *Journal of Personality and Social Psychology*, 63, 460-473.
7. Moore, S.M. & Rosenthal, D.A. (1992). Australian adolescents' perceptions of health-related risks, *Journal of Adolescent Research*, Vol. 7, 177-191, 1992.
8. Arnett, J.J., Optimistic bias in adolescent and adult smokers and nonsmokers, *Addictive Behaviors*, Vol. 25, 625-632, 2000.
9. Hurrelmann, K. and Losel, F., *Health Hazards in Adolescence*, Berlin: De Gruyter, 1990.
10. Perloff, L.S., Social comparison and illusion of invulnerability of negative life events, In C.R. Snyder and C.E. Ford (Eds.), *Coping with Negative Life Events*, New York: Plenum Press, pp 217-242, 1987.
11. Hoorens, V. and Buunk, B.P., Social comparison of health risks: locus of control, the person-positivity bias and unrealistic optimism. *Journal of Applied Social Psychology*, Vol. 23, 291-302, 1993.
12. Guarnera, S. and Williams, R.L., Optimism and Locus of control for health and affiliation among elderly adults, *Journal of Gerontology*, Vol. 42, 594-595, 1987.
13. Whalen, C.K., Henker, B., O'Neil, R., Hollingshead, J. Holman, A. and Moore, B., Optimism in children's judgments of health and environmental risks, *Health Psychology*, Vol. 13, 319-325, 1994.
14. Breslow, L., Social ecological strategies for promoting healthy lifestyles, *American Journal of Health Promotion*, Vol. 10, 253-257, 1996.
15. Sells, C.W. and Blum, R.W., Current trends in adolescents health, In R.J. DiClemente, W.B. Hansen and L.E. Ponton (Eds). *Handbook of Adolescent Health Risk Behavior*, New York: Plenum Press, 1996.
16. Wallston, K.A., Wallston, R.S. and DeVellis, R., Development of multidimensional health locus of control (MHLC) scales, *Health Education Monographs*, Vol. 6, 160-170, 1978.



Global Journal of Engineering Science and Research Management

17. Kulik, J.A. and Makler, H.I.M., Health status perceptions of risk and prevention interest for health and non-health problems, *Health Psychology*, Vol. 6, 15-27, 1987.
18. Quadrel, M.J., Fischhoff, B. and Davis, W, Adolescent (in)vulnerability, *American Psychologist*, Vol. 48, 102-116., 1993.
19. Lefcourt, H.M., Locus of Control and Coping with Life's Events, In Staub (Ed.) *Personality: Basic Aspects and Current Research*, Englewood Cliffs, NJ: Prentice Hall, 1980.
20. Phares, E.J, Locus of Control in Personality, Morristown, NJ:General Learning Press, 1978.