RELATIONSHIP BETWEEN LOCUS OF CONTROL AND HEALTH-RELATED VARIABLES

LISA COTLAR GRAFFEO AND LYNETTE SILVESTRI
College of Education and Human Development
University of New Orleans

Locus of Control (LOC) deals with an individual's personal attribution of successful or failure. Those with internal LOC believe that events in their lives are under their personal control while individuals with external LOC feel that their lives are dominated by the environment. The theory has been applied to achievement and health-related issues with internals performing higher academically and taking better care of their health (Harvey & Thomas, 2004). Using the Multidimensional Health Locus of Control Scale (MHLC) his study examined the connection between high school students' LOC and their grade-point averages, extracurricular activity membership, amount of studying time, alcohol use, seatbelt use and tobacco use. Using Pearson correlations, results did not support the notion that students with internal LOC were better students or had better health habits than those with external LOC. A significant correlation was found between involvement in school organizations and less use of alcohol. Another interesting correlation at the .05 level was noted between frequent use of alcohol and regularity of seatbelt use. It appeared that those students who drank alcohol were careful to wear seatbelts.

Locus of Control (LOC) refers to an individual's personal belief that the events which occur in life are either a result of personal control and effort, or outside forces such as fate and luck. Perception of positive and negative events as being consequences of one's own actions and thereby under one's own personal control is known as internal LOC. In contrast, external LOC refers to the perception of positive or negative events being unrelated to one's own behavior and thereby beyond personal control. (Locus of Control and Cardiovascular Health, 2004). According to Harvey and Thomas (2004) LOC has been affiliated with academic performance and achievement in the professional realm, as well as health and psychological well-being. The authors describe internals as having a tendency to perform better on academic tasks than externals, and have more effective coping strategies which lead to better psychological adjustment. These enviable characteristics reduce the negative health effects associated with high stress.

The theory of LOC was derived from Rotter's Social Learning Theory of 1954 (Rotter, 1982). Twelve years later, Rotter published his Locus of Control Scale to measure generalized perceptions of individuals toward internal or external LOC. Wallston, Wallston, Kaplan and Maides further expended on Rotter's theories by developing the construct of Health Locus

of Control in 1976. These researchers first detected the use of LOC in the medical community in observations of recently diagnosed diabetics and medical professionals in a classroom setting. The medical staffers were attempting to get the patients and their families to develop an internal LOC that would better the chances of controlling their illness and improve overall quality of life (Kaplan, Maides, Wallston & Wallston, 1999).

A Multidimensional Health Locus of Control Scale (MHLC) was developed in 1976 (Wallston, Wallston, & DeVellis, 1978). As an alternative tool, the MHLC could identify not only an individual's tendency toward internal or external behaviors, but further divide those who perceived control as coming from somewhere other than from within as blaming fate and luck or what became known as "powerful others".

Mackey (2002) noted a great deal of research linked internal LOC to positive health beliefs and behaviors. According to the author, individuals with an internal LOC were more likely to seek health-related knowledge, successfully stop smoking, maintain better weight control, adhere to physician's prescriptions, use birth control effectively, seek preventative vaccines, use a seatbelt regularly, and practice proper dental hygiene. MacArthur and MacArthur (1999) added that a sense of control such as that experienced by internals led to improved emotional and mental health, reduced risk of heart disease, better self-rated health status, and lower morbidity.

Additional studies have investigated a link between LOC and educational success, socioeconomic status and achievement among minorities. Brockway and Njus (1999) found students with an internal LOC were more likely to successfully adjust to the academic demands and social conditions of college. Another study (Dille and Mezack 1991) noted that internal community college students were more successful at distance education than their external counterparts, while Pugliese (1994) identified a link between course drop-out rates and students with an external LOC. Similar results were found by research conducted at Temple University (2004) which reported that students who had a very external LOC often believed that it was solely the teacher's responsibility to teach them and not their responsibility to learn (Classroom Management, 2004).

With regard to socioeconomic status (SES) and LOC, MacArthur and MacArthur (1999) confirmed that higher SES has been positively associated with internal LOC. That is, the more a person perceived life events as being within their control, the more likely he/she was to achieve social and economic advancement. Harvey and Thomas (2004) add "the social and economic oppression felt by minority communities led them to develop an external rather than internal LOC." In other words, minorities that had experienced the hardship brought upon them by a "powerful other" were less likely to have the means or determination to develop an internal LOC needed to overcome those barriers even once the oppression was lifted. It must also be understood, however, that LOC is a continuum, with internals at one end and externals at the other. Most individuals fall somewhere in between and may lean more

in one direction or the other depending on the situation.

In summary, LOC is an individual's personal belief that the positive or negative events in his/her life are either the result of personal control (internals) or the result of outside forces (externals). Internal LOC is associated with academic performance and achievement, as well as health and psychological well-being. External LOC is associated with drop-outs and lower SES. The purpose of this study was to determine if high school students labeled as having internal LOC would maintain higher grade point averages, study more frequently, use seatbelts with more regularity and consume less alcohol and tobacco than external LOC students.

Method

Subjects, whose ages ranged from 14-19, included 121 high school students enrolled in physical education class in a suburban high school in Louisiana. In addition to the standard likert scale items on Form B of the Multidemensional Health Locus of Control Scale (MHLC), the subjects were surveyed for demographical data, and questions concerning several common health-related behaviors such as tobacco, alcohol and seatbelt usage (Wallston, Wallston & DeVellis, 1978). No identifiable information was acquired to insure student anonymity and improve the likelihood of responder truthfulness. Instructions were printed on the survey and read aloud to the subjects. Surveys submitted with omitted items were discarded. A total of 76 surveys were determined to be complete and the remaining ones were discarded.

The completed MHLC surveys were analyzed and scores were assigned to each survey. Using the author-recommended scoring method, each survey was given an internal LOC score and an external LOC score. Those scores that fell above the median score for internal or external were utilized for further analysis. A total of 38 surveys were used in the study, composed only of those the author categorized as "high internals" and "high externals".

Data Analysis

The mean age of the narrowed 38-subject sample was 15.92 years. The subjects reported an average grade point average of 2.50 on a 4.0 scale and consisted of 47% freshmen, 34% sophomores, 8% juniors and 11% seniors. With regard to ethnicity, the respondents were 66% Caucasian, 16% African-American, 13% Hispanic-American, and 3% other. To identify any relationships between a student's LOC and his/her achievement or health choices, SPSS was utilized to run Pearson correlations. Included in the analysis were four academic-related factors: age, grade point average, hours spent studying per week, and number of extracurricular organizations to which students belonged. In addition, three health-related behaviors were examined: seatbelt, alcohol and tobacco usage.

Results

None of the factors, including grade-point average, hours spent studying per week, membership in extracurricular organizations, seatbelt use, alcohol use and tobacco use significantly correlated with LOC. However, at the .05 significance

level, it was determined that students who were involved in school organizations drank less alcohol, and studied more hours per week. At the .01 significance level, an unanticipated correlation was found between alcohol abuse and seatbelt usage. According to the surveys, students who consumed alcohol more frequently also used their seatbelts with more regularity.

Conclusion

The results of this study failed to support the hypothesis that students who were labeled as having internal LOC maintained higher grade-point averages, studied more frequently, used seatbelts with more regularity and consumed less alcohol and tobacco than students labeled as having external LOC. One limitation could be responder bias because their teacher distributed and explained the surveys. Subjects may have self-reported in a manner they thought was favorable rather than giving accurate responses for grade-point averages, studying time, organization membership, and seatbelt, alcohol and tobacco usage. In addition, the sample of only 38 surveys, narrowed from the original 121, issued is considered small. One interesting significant correlation was noted between school organization membership and relatively less alcohol usage and more time studying. It appeared that students who were busy with school activities were more likely to study and less likely to drink alcohol. The other significant correlation between alcohol drinking and regular seatbelt usage indicated that those students who chose to drink were responsible about using seatbelts.

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