A review of the locus of control construct in relation to environmental education program participation

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A REVIEW OF THE LOCUS OF CONTROL CONSTRUCT IN RELATION TO
ENVIRONMENTAL EDUCATION PROGRAM PARTICIPATION

A THESIS
SUBMITTED TO THE FACULTY OF CLARK ATLANTA UNIVERSITY
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
DEGREE OF MASTER OF ARTS

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Atlanta, Georgia
MAY 1994
ABSTRACT

SOCIOLOGY

WILLIS, SEAN C. B.A., CLARK ATLANTA UNIVERSITY, 1991

A REVIEW OF THE LOCUS OF CONTROL CONSTRUCT IN RELATION TO ENVIRONMENTAL EDUCATION PROGRAM PARTICIPATION

Advisor: Dr. Sandra E. Taylor

Thesis Dated May, 1994

This thesis examined the relationship between participation and locus of control among urban African-American youth aged five to nine. The sample consisted of forty boys and girls who participated in a federally sponsored program. The program's major goal is to provide environmental education and forestry career information to urban minority children to stimulate an interest in natural resources preservation as well as in opportunities within this field.

Subjects completed the Children's Nowicki-Strickland locus of control scale before and after participation in the environmental education program. Data were analyzed using the paired T-Test. The study's findings failed to show a statistically significant increase in internality as a result of participation. The findings of this study are inconsistent
with the reviewed literature which suggests that "participation" is positively related to an increased internal locus of control in African-American youth. Limitations, however, in the methodological processes could well account for these findings.
ACKNOWLEDGEMENTS

I would like to thank my thesis advisor, Dr. Sandra Taylor for her crucial support throughout my studies, especially during the writing of this thesis. Also I would like to thank my thesis committee, Dr. Hubert Ross and Dr. Frank Sisya, who rendered their generous support during my academic pursuits. To my family Avery, Brown, Davis, Galidima, Morrow, Smith, and Thomas, I thank you all for the positivity and support given. Special thanks to my father, Louis Moon, and mother, Jurie Brown, whose personalities and accomplishments are sources of inspiration. An additional thanks is extended to my mother whose relentless dedication to my well-being has been, and continues to be, the greatest positive force in my life. This thesis and what it symbolizes to me is dedicated to my grandparents Willie Brown, Early Moon, Sarah Moon, Elease Brown, S.L. Morrow, and I.V. Moon, whose lives continue to add goodness to my own. In essence, I am appreciative of the opportunity to be, and so I say "thanks" to the life force that is.
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CHAPTER 1

INTRODUCTION

The locus of control concept which measures a person's internal-external control beliefs, emerged from social learning theory. Social learning theory is one of the many personality theories that attempts to understand human social behavior and the conditions that affect it. It is a theory of how choices are made by individuals from the variety of potential behaviors available to them. In order to determine which behavior has the strongest potential for occurrence, social learning theory considers the expectancy, reinforcement value, and psychological situation. Expectancy refers to the "probability held by the individual that a particular reinforcement will occur as a function of a specific situation or situations."\(^1\) Reinforcement is a factor that has an effect on the occurrence, direction or kind of behavior. The value of an reinforcement is defined as the degree of preference for any reinforcement to occur if the possibilities of their occurring are equal.\(^2\) Psychological situation is the


\(^2\)Ibid., 13.
directly affect the expectancies and reinforcement values for a given person. It is essential to identify both the specific and the general effects on behavior that a given situation will have by the manner in which that situation affects expectancies and reinforcement values.³

Within this social learning theory framework, locus of control attempts to determine a person's internal-external orientation in general or in specific situations.

The internal-external concepts within the social learning theory framework may be described as follows:

When a reinforcement is perceived by the subject as following some action of his own but not entirely contingent upon his action, then, in our culture, it is typically perceived as the result of luck, chance, fate, or under the control of powerful others, or as unpredictable because of the great complexity of the forces surrounding him. When the event is interpreted in this way by an individual we have labeled this a belief in external control. If the person perceives that the event is contingent upon his own behavior or his own relatively permanent characteristics this is termed a belief in internal control.⁴

The concept leads to a discovery of a persons' perceived locus of control. Perceived locus of control may be viewed as a narrow expectancy arising out of a particular situation, or it may be viewed as a relatively stable characteristic that persons carry with them from situation to situation.⁵ It is

³Ibid.

⁴E. Jerry Phares, Locus of Control in Personality (New York: Silver Burdett Company, 1976), 40.

⁵Ibid., 6.
crucial to recognize that while individuals control beliefs affect their behavior, so does the structure of the situations. Behavior is determined both by the structure of the situation and by the beliefs of expectancies brought to the situation by the individual (I-E belief), with the relative contribution of each varying from situation to situation in lawful ways. Social learning theory, as stated earlier, provides the framework for determining the relative contribution of situation expectancies and personality variables.⁶

Although social learning theory is the theory from which locus of control has emerged, the more appropriate theory for this study is empowerment theory. Empowerment theory provides a more specific conceptual framework for this study of locus of control orientation. This study hypothesizes that participation in an environmental education program increases internality or internal control (heightened sense of control, psychological empowerment, and power). Empowerment theory states that participation in decision making may enhance one's sense of empowerment and that empowered individuals are likely to be active in community organizations and activities.⁷ Lack of empowerment has been defined as powerlessness, real or

⁶Ibid.

imagined, learned helplessness, alienation, loss of sense of control over one's life.  

Powerlessness has been defined as:

A pervading state of mind in which the individual assumes the role of "object" controlled by the random impulses of the environment, as opposed to the "subject" exerting significant influence on factors that affect one's life and community.

The concept of empowerment has been applied to a diverse list of disciplines such as philosophy, religion, political science, sociology, education, and psychology. These disciplines have applied this concept to concerns of civil rights, justice, political and social structures and quality of life-issues. The term empowerment was popularized in the mid 1970's to identify both traditional and innovative social work implementations and interventions. The empowerment concept and that of powerlessness are related to locus of control orientation in similar ways. Locus of control orientation has been used in association with various studies addressing individual and societal concerns.

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10 Ibid., 323.

11 Ibid., 321.
Individuals with an internal locus of control are more likely to be engaged in significantly more achievement daydreaming and less fear of failure daydreaming than less internally oriented individuals.\textsuperscript{12} Individuals who became reemployed within three months of job loss were more internal in locus of control, had greater self-efficacy, and possessed better problem-solving skills than individuals who remained unemployed.\textsuperscript{13} An external locus of control has been linked to teen-age pregnancy, because many teenagers believe they will not become pregnant because of the belief that they have no control over their bodies or actions (external control).\textsuperscript{14} Lester found that external locus of control individuals gambled more at games in which luck played a part and less at games in which technique and reason played a part.\textsuperscript{15} Wright and Pihl's study of locus of control and irrational belief led them to conclude that there is an association between


externality and maladjustment.\textsuperscript{16} Stevick and Dixon reported that internally controlled individuals significantly held more social interest than externals.\textsuperscript{17} Externals have been reported as possessing greater hostility and aggression than internals.\textsuperscript{18} Individuals with higher internal locus of control have been reported as attaining greater job satisfaction.\textsuperscript{19} It was found that internal locus of control contributes to entrepreneurial behavior and that entrepreneurs have less faith in luck and chance situations and perceive themselves to be less influenced by powerful authority figures than non-entrepreneurs.\textsuperscript{20}

Locus of control is also predictive of weight loss: internals tend to lose more weight than externals.\textsuperscript{21} It is


also correlated with a number of other variables. For example, locus of control has been shown to be related to drug related concerns and self-esteem, with internals scoring lower on drug-related measures and higher on a self-esteem scale.\textsuperscript{22} The construct has been related to teacher stress, with high internal locus of control individuals reporting less work stress.\textsuperscript{23} Nurse burnout was lower among individuals who felt more in control of their jobs and who were more challenged by their work. Individuals with an external locus of control were more likely to develop attitudes indicative of burnout.\textsuperscript{24} Perceiving control of a "hassle" situation was highly associated with the situation being resolved.\textsuperscript{25} The types of studies using the locus of control orientation construct are nearly exhaustive in terms of subject area. The areas discussed in the foregoing paragraphs reflect merely a portion of available studies.

The conceptual framework for this study is empowerment


\textsuperscript{23}Glennelle Halpin and Karen R. Harris and Gerald Halpin, "Teacher Stress as Related to Locus of Control, Sex, and Age," \textit{Journal of Experimental Education} 53, no. 3 (1985): 138-140.

\textsuperscript{24}Anne Keane and Joseph Ducette and Diane C. Adler, "Stress in ICU and Non-ICU Nurses," \textit{Nursing Research} 34, no. 4 (1985): 234-236.

theory. The study uses quantitative techniques of analysis as the primary method of data analysis. Specifically, the paired T-Test was used in determining the hypothesized effect. This analysis is presented in Chapter Four.
Statement of the Problem

The larger problem which shaped the focus of this study is the prediction of human behavior and the internal or cognitive processes related to behavior. This problem is addressed by social learning theory, which attempts to predict human behavior by utilizing four basic concepts: behavior potential, expectancy, reinforcement value, and the psychological situation. The locus of control concept (internal-external) developed as a result of the utilization of social learning theory in attempting to predict and explain human behavior. The focus of this study is locus of control orientation and the effect of participation in an environmental education program on locus of control orientation. The study attempts to determine the effect of participation on the locus of control orientation of a group of urban African-American children who were exposed to an environmental education program.

This study is specifically concerned with whether or not participation is related to an internal locus of control. This research will add to that body of literature exploring the means that create change in one's locus of control orientation. This type of study can offer practical insights to professionals concerned with the altering of locus of control orientation in persons and specific groups who would

26E. Jerry Phares, Locus of Control in Personality (New York: Silver Burdett Company, 1976), 11.
benefit greatly from an increase in their sense of control over their lives and total environment.

Possessing a strong sense of internality in locus of control orientation has proven to be a stable and significant factor in developing an attitude for general success in life as well as in specific areas. Larson conducted a study in which the relationship of subjective control and happiness within normal daily experience was investigated. Larson found that individuals who reported higher average daily control, also reported greater average happiness, confirming that a generalized sense of control is essential to well-being in daily life.27

Zainuddin, in his study of aggression and locus of control, found that externally oriented subjects were more aggressive in comparison to internally oriented subjects.28 Hagborg found that students who reported zero—time on homework were more externally controlled than other student subjects.29 A study by Nunn and Parish examined subjects who were at risk for school failure. The experimental group of

27 Reed Larson, "Is Feeling "In Control" Related to Happiness in Daily Life?," *Psychological-Reports* 64, no. 3 (1989): 783-784.


subjects included students who were at risk for school failure, and the control group consisted of students not at risk of school failure. Results showed that at-risk students differed from peers on the locus of control scale; at-risk students were found to be more externally oriented, as well as found to possess a lower self-concept as learners.\(^{30}\) Similarly, Bar-Tal found in his study of locus of control, academic achievement, anxiety and level of aspiration that internally controlled individuals acquired greater academic achievement, expressed less anxiety, and had higher levels of aspiration. The subjects for this study were 2,438 Israeli-Jewish ninth graders of Asian, African, European, American, and Israeli background.\(^{31}\) Maqsud found that more externally oriented individuals rated significantly higher in anti-social behavior and were inclined to underachieve in school more so than internally oriented individuals. Seventy Nigerian Hausa secondary school males were the subjects for this study. These subjects completed the Nowicki-Strickland locus of control scale for children, and their teachers rated their


antisocial behavior on the Rotter Child Behavior Scale.\textsuperscript{32} Sherris and Kahle found that individuals with an internal locus of control orientation achieved more than externally oriented individuals on three alternate-form achievement tests. Two five-week instructional treatments were developed for this study. The first treatment stressed concept relationships for 282 9th and 10th graders; the second treatment for 259 9th and 10th graders did not.\textsuperscript{33} Cellini and Kantorowski conducted a study that examined the relationship between locus of control and career decidedness. The Rotter Internal-External locus of control scale and the Career Decision Scale was administered to 113 male and 177 female undergraduates. Results showed that individuals with an internal locus of control significantly more often reached conclusions regarding their career plans than individuals with an external locus of control.\textsuperscript{34} Trice and Gilbert's study of the career aspirations of eighty-six, fourth grade students show that of the externally scoring individuals, sixty percent had no career aspirations or a fantasy career aspiration,


while ninety percent of the internally scoring individuals had realistic career aspirations. Kliwer and Sandler found that internal locus of control served as a buffering effect between negative life events and psychological symptoms. The subjects for this study consisted of 238 children aged eight to sixteen, male and female.

Practically all of the studies reviewed indicate that internality is associated with desired attributes more so than is externality. In essence, this type of study has implications for an array of personal and social problems, from which various populations may benefit.

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CHAPTER 2

REVIEW OF PERTINENT LITERATURE

Nowicki and Barnes conducted an experiment with 261 inner-city teenagers, with the purpose of altering their locus of control toward internality. The Nowicki-Strickland locus of control scale was administered to all 261 students consisting of seventh, eight and ninth graders. This experiment consisted of these 261 students participating in a structured camp program for a week. The camping consisted of five and one-half days of outdoor education and camping experience. The schedule for the student campers consisted of activities such as camp craft, fishing, swimming, arts, crafts, canoeing, conservation classes, and nature study. The main purpose of this study was to determine the effects of a highly structured camp experience on the locus of control orientation of African-American inner-city teenagers.¹ It was expected that this organized camp experience that could make clearer the connection between the youngsters behavior and the resultant reinforcement would have the effect of making students view themselves to be more in control of events and

therefore more internal. The statistical results suggested that the camp experience had an effect on the campers in terms of locus of control changes. These results suggested that the camping experience made the youngsters feel more in control of events and better able to see the relationship between behavior and the results of their behavior in terms of reinforcement.

Foulds hypothesized that an experimental group of college students who participated in a personal growth group experience of eight weekly, four and one-half hour sessions would change significantly in the direction of increased internality as measured by the I-E scale, while a non-treatment control group would demonstrate no change. The experimental group consisted of thirty college students, ranging from freshman to seniors from eighteen to twenty-two years of age. An equal number of students were selected for the non-treatment group.

The Internal-External locus of control scale was used to assess the generalized locus of control expectancy for the experimental group. Treatment consisted of an unstructured group experience with emphasis on the exploration and

\[2\text{Ibid.}\]

\[3\text{Ibid., 251.}\]


\[5\text{Ibid., 295.}\]
expression of here and now feelings, as well as concerns for self and other group members. The experimental group responded to a pre-test at the beginning of the first group session and to a post-test at the end of the last group session. The control group also completed pre and post-tests seven weeks apart during regular class periods of a course in educational psychology. As predicted significant changes in the direction of internality occurred in the experimental group, while no change occurred in the control groups. The findings of this study indicate that the results of a personal growth group experience which focused on increased self-awareness and authentic interaction is significant in developing internality as measured by the I-E scale.

These findings suggest that a growth group experience that focuses on increased self-awareness and authentic interaction may be one effective method for altering generalized locus of control expectancies in the direction of internality. Blazek and McClellan conducted a study which investigated the effect of self-care instruction on locus of control in fifth grade children. The research question was whether or not there would be a difference in locus of control orientation between those children who received self-care

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6Ibid., 295-296.
7Ibid., 297.
8Ibid., 298.
9Ibid., 299.
instruction and those who attended a health discussion. The focus was to make children aware that they can actively participate in their own health care. Emphasis was placed on the various ways children could take responsibilities for their health care. Three forty-minute consecutive classroom sessions were held using filmstrips and a manual from the Health PACT program.

Forty-two fifth graders attending an upper-middle class southwestern school were randomly assigned to either a control group or experimental group. Children in the experimental group participated in a program adapted from the Health PACT program developed by Igoe designed to show children how to become managers in their own health care. Children in the control group attended a health discussion. Self-care is the concept that people can and should take responsibility for their own health. It is the practice of individuals initiating and performing activities on their own behalf in maintaining life, health and well being. The essence of the self-care movements is control, responsibility, freedom and an improved quality of life.

The control group attended a health discussion group

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11 Ibid.

12 Ibid.

13 Ibid.
which consisted of a discussion on basic first aid. The content focus was on the first aid techniques pertinent to the Southwest area of the U.S. Three forty-minute consecutive classroom sessions were held utilizing film on first aid, followed by an open discussion period concerning any area of health.\textsuperscript{14} Parcels children's Health locus of control scale was used in this study. This questionnaire was designed to measure the extent to which children view health event outcomes as being due to their own actions or to the whims and or manipulations of fate, chance or others. Data for both experimental and control groups were gathered before each group began and immediately after each group ended.\textsuperscript{15} The results of this study indicate that participation in self-care instruction does increase the extent to which children view health event outcomes as being due to their own actions.\textsuperscript{16}

Smith conducted a study with thirty patients who were present at the Neuropsychiatric Emergency Room of the UCLA medical center because of serious life crises. All of these patients completed an I-E scale, after which the patients received crisis intervention treatment. Six weeks after initially completing the I-E scale, each crisis patient

\textsuperscript{14}Ibid., 554-555.

\textsuperscript{15}Ibid., 555.

\textsuperscript{16}Ibid.
completed it a second time.\textsuperscript{17} The crisis intervention program at the UCLA Medical Center, provided up to six weeks of intensive treatment, with focus being on helping the individual to learn and adopt more effective coping mechanisms so that he may gain more positive control over his current life situation. Given that the person in crisis is temporarily overwhelmed by radical negative influences in his life situation, it might be expected that he would tend to perceive himself as being relatively powerless to influence what happens to him, but that as crisis resolution occurred, he would come to perceive himself as having greater control over his life situation.\textsuperscript{18} Accordingly, it was hypothesized that crisis patients would initially be more externally oriented on the I-E scale than would a similar group of non-crisis patients, but that the crisis patients would show a significant shift toward the internal end of the dimension following the six week resolution period.\textsuperscript{19}

As predicted a significant change in the mean I-E score occurred in the crisis group as a function of the six week crisis resolution period, while no such change occurred in the non-crisis group. In terms of the theoretical framework underlying the scale, the crisis patients showed a marked


\textsuperscript{18}Ibid., 329.

\textsuperscript{19}Ibid., 329-330.
change in the direction of coming to regard what occurred in their lives as being contingent not on forces outside of themselves, but on their own behaviors. These results mark life crisis resolution as a variable which can significantly effect I-E scores. In their study of the relationship between citizen participation, perceived control, and psychological empowerment, Zimmermann and Rappaport define psychological empowerment as the link between a sense of personal competence, a desire for, and a willingness to take action in the public domain. Psychological empowerment is the expression of the empowerment construct at the individual level of persons.

Zimmermann and Rappaport conducted three separate studies with two different sample populations, in an effort to examine the relationship between psychological empowerment and participation. The first study examined differences among groups identified by a laboratory manipulation as willing to participate in personally relevant or community situations. The different types of citizen participants were identified along with their concomitant level of psychological

20Ibid., 331.


22Ibid., 726.

23Ibid., 729.
empowerment. Respondents were divided into groups based on their response to two scenarios describing an undesirable situation. These scenarios presented hypothetical situations that offered a person an opportunity to exert control (power) and influence (decision). One scenario was relevant to the respondent's personal life and the other relevant to the life of the larger community. The personally relevant scenarios described situations that were specifically germane to one’s personal goals, achievement and well-being. The community relevance scenario was presented as a situation that had implications for community well-being and quality of life. Participants were asked to rate their willingness to try to change the situation described.24

Groups identified were identified as: willing to change both personally and community relevant scenarios, willingness to change one but not the other, and not willing to change either scenario. Measures logically related to psychological empowerment were studied across groups that were defined by responses to these scenarios.25 The respondents in the first study were students enrolled in an introductory course in psychology, classified as freshman, sophomore, junior and seniors. When analysis examined the univariate analysis of variance for each dependent variable representing psychological empowerment, it was found that across all four

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24Ibid.

25Ibid., 728.
groups, the double yes group scored higher on the variable and the double no students scored lowest.\textsuperscript{26} These findings support empowerment theory's postulation that participation in decision-making may enhance one's sense of empowerment and that empowered individuals are likely to be active in community organization and activities. These findings support this theory even though actual participation had not taken place only the willingness to try to change the situation described was calculated. If these scenarios were actually executed the respondent by necessity would be involved in decision-making at some level, while participating.

The second study by Zimmermann and Rappaport was an attempt to replicate the findings of the study described above, but by using naturalistic behaviors, rather than hypothetical scenarios for defining groups.\textsuperscript{27} Again the relationship between participation and psychological empowerment was examined. Two methods of classification were used that represented participation: involvement in community activities and membership in voluntary organizations.\textsuperscript{28}

It was found that the highly active students scored higher than low-active students on each of the significant variables, representing psychological empowerment. For the level of involvement category it was found that the most

\textsuperscript{26}Ibid., 733.

\textsuperscript{27}Ibid.

\textsuperscript{28}Ibid., 735.
involved groups had higher scores on the dependent variables representing psychological variables. These results demonstrate that those persons most active and involved had greater psychological empowerment, as shown by their higher dependent variable scores, representing the construct of psychological empowerment. Once again, findings support the postulations of empowerment theory.\textsuperscript{29}

Study III by Zimmermann and Rapppaport was a replication of Study II except that a sample of community residents acted as respondents instead of college students. The results of Study III demonstrated that the most active respondents scored highest on all significant measures except internal control and that more involved individuals scored higher than non-involved individuals.\textsuperscript{30}

As in Study I and II, these results demonstrated the significance of participation in relation to the level of psychological empowerment (internal control, sense of power, control). These findings of the three studies presented here support the postulations of empowerment theory. Overall, students and residents involved in community organizations reported a greater sense of empowerment than their less involved counterparts. The consistent results across samples and measures indicate that psychological empowerment is differentially present among those who report differing

\textsuperscript{29}Ibid., 737-738.

\textsuperscript{30}Ibid., 739-744.
degrees of activity/participation in community life.\textsuperscript{31}

Keiffer studied fifteen individuals who emerged as leaders through activity in a grass roots organization. In this study, Keiffer was interested in how individuals managed to move beyond situations of powerlessness and oppression to a sense of power, (internal control, psychological empowerment) or acquiring participatory competence.\textsuperscript{32} He demonstrates the relationship among participation and the development of empowerment, exclusively from the perspective of individual development. His research sought to present the patterns and processes of transition from powerlessness to social-political empowerment.\textsuperscript{33} Keiffer's study found that individual activists in citizen organizations had succeeded in increasing their real and self perceived sense of participatory competence (internal control, sense of power, psychological empowerment) as a result of having participated in a citizen organization. Participatory competence includes development of a more positive self-concept, or sense of self-competence, construction of more critical or analytical understanding of the surrounding social and political environment, and cultivation of individual and collective resources for social

\textsuperscript{31}Ibid., 746.


\textsuperscript{33}Ibid., 12.
and political action. Keiffer's findings led him to state that empowerment evolves from a sense of powerlessness (external control) and to view sense of powerlessness as a construction of continuous interaction between the person and his/her environment.

Sense of powerlessness combines an attitude of self-blame, a sense of generalized distrust, a feeling of alienation from resources for social influence (participation), an experience of disenfranchisement (powerlessness), an economic vulnerability (powerlessness) and a sense of hopelessness in socio-political struggle. Keiffer's study shows how participants have evolved from a sense of powerlessness to a sense of empowerment, as a result of continued involvement (participation) in an organization.

This process was gathered by recording self-descriptions of the daily experience of powerlessness from which the participants emerged. What emerged from these lengthy and detailed retrospection is a common and consistent conception of empowerment as a process of becoming as an ordered and progressive development of participatory skills and political understanding. Here empowerment takes on a dual meaning, referring both to a longitudinal dynamic of development and to the acquiring of a set of insights and abilities best

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34Ibid., 31.
35Ibid., 27.
36Ibid., 16.
described as "participatory competence". In this study, empowerment was viewed as attainment of an abiding set of commitments and capabilities which can be referred to as participatory competence.

A fully established attainment of empowerment refers to the combination of attitudes, understandings and abilities required to play a conscious and assertive role in the ongoing social construction of one's political environment. This attainment establishes the self as subject, or author of one's own history. The fundamental empowerment transformation, is the transition of self as helpless victim, to acceptance of self as assertive and efficacious citizen. This transformation is the result of participation and the development of skills, which lead to the desired effect of a sense of or real empowerment. Participants of this study stated they did not view themselves as having more actual power, but rather felt more powerful. They had not necessarily gained significant social influence or political control, but did see themselves as becoming more efficacious participants in the political process and local decision-making, better able to engage effectively in the dynamics of social and political exchange and therefore now hold a sense

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37 Ibid., 17.
38 Ibid., 12.
39 Ibid., 31.
40 Ibid., 32.
of empowerment. Keiffer states that this study demonstrates that empowerment is inescapably labor intensive (participation) and empowerment is not a commodity to be acquired, but a transforming process constructed through action (participation). Keiffer's developmental perspective in this study establishes the specific importance of time and practice. For all the participants, at least four years of intensive experience underlies attainment of enduring commitment, even though individuals may increase their sense of self-competence in more limited time frames. The findings of this study are consistent with empowerment theory which postulates that participation in decision-making may enhance one's sense of empowerment and that empowered individuals are likely to be active in community organizations and activities.

Leven's studied a sample of 131 AFDC mothers, living in a 12 square block slum community in a large northeastern city. Two types of respondents were needed: those who belonged to the Welfare Recipient League and those who lived in the area served by the league but were not affiliated with it. The attitudes of members and non-members were measured at one point in time.

41Ibid.

42Ibid., 27.

This was done in order to determine if there was a negative association between affiliation and powerlessness among those on welfare. In this study powerlessness was viewed as a social psychological construct manifesting itself in specific attitudes and behavior patterns thought to be characteristic of those living in poverty.\textsuperscript{44} Three different dimensions of powerlessness were measured, fatalism, sense of control, and lack of political activism.\textsuperscript{45}

There were several hypotheses stated for this study. It was hypothesized that there was a negative relationship between organizational affiliation and powerlessness among the welfare poor. Findings supported this hypothesis, on each of the three dependent variables members of the Welfare Recipients League felt more powerful than non-members.\textsuperscript{46}

It was hypothesized that members of the Welfare Recipient League are less likely than non-members to have a fatalistic outlook toward life. Findings supported this hypothesis, it was found that thirty-five percent of the members of the Welfare Recipient League had a fatalistic outlook toward life, whereas this same orientation was shared by fifty-nine percent of the non-member population.\textsuperscript{47}

\textsuperscript{44}Ibid., 20.  
\textsuperscript{45}Ibid., 24.  
\textsuperscript{46}Ibid., 21,26.  
\textsuperscript{47}Ibid.
It was also hypothesized that members of the Welfare Recipient League are more likely than non-members to perceive themselves as capable of exercising control over the problems that impinge upon them in their local environment. This hypothesis was supported by findings, a sense of control over ones's immediate problems was expressed by fifty-seven percent of the members, whereas only twenty-four percent of the non-affiliates experienced a similar feeling of mastery. All of the findings in this study support the postulations of empowerment theory and demonstrate the relatedness of participation to empowerment (sense of power, participatory competence).

Zurcher conducted a study attempting to determine the consequences of "maximum feasible participation" of the poor in OEO community action programs. This concept was conceived by the Economic Opportunity Act of 1964, which began the War Against Poverty and established the Office of Economic Opportunity (OEO). Local community action programs were put into development, whose theme was to be "developed, conducted and administered with the maximum feasible participation of residents of the areas and members of the groups to be served."  

48Ibid.

It was expected that the impact of participation would be socio-psychological in the sense that active and meaningful involvement in programs which get results would foster changes in participant self-concept, motivational structure and in fact change the poor who were produced by the system.\textsuperscript{50} The subjects for Zurcher's study were sixty-one board members, twenty-three were identified as target neighborhood community officers (TNO's, representatives of the poor): thirty-eight (Non-TNO's) were government or agency officials, businessman, professional, religious and civic leaders, etc.\textsuperscript{51} The first hypothesis of this study stated that board members who were representatives of the poor would differ significantly from members who were not representatives of the poor on social psychological variables often associated with socio-economic status, which are indicative of their general sense of competence and confidence.\textsuperscript{52} Findings supported this hypothesis.

It was found that the differences between TNO's and Non-TNO's in social-psychological variables were consistent TNO's scored lower than Non-TNO's in activism, achievement orientation, and future orientation, but higher than Non-TNO's in anomie, isolation, normlessness, powerlessness, alienation,

\textsuperscript{50}Ibid., 86.
\textsuperscript{51}Ibid., 91.
\textsuperscript{52}Ibid., 87.
and particularism. Data used to test this hypothesis were collected before actual participation began for TNO's as members of the Welfare Recipient league.

Secondly, it was hypothesized that as a result of their participation in the decision-making process of the board and associated committees, the representatives of the poor would show significant changes in those social-psychological variables referred to in the first hypothesis. Findings supported this hypothesis. Data showed that activism and achievement orientation increased and particularism decreased significantly for TNO's. Anomie, integration with relatives, isolation, normlessness, and alienation decreased and future orientation remained the same.

It was also hypothesized that for the poor, the degree of change on the variables to be measured would be related to the quality of participation, length of participation and willingness to continue participation. Active and inactive categories were based upon meetings attended, offices held, observed performance, etc. Findings supported this hypothesis; active TNO's had increases in activism, achievement orientation, decreases in normlessness, alienation, and particularism attaining statistical

53Ibid., 92.
54Ibid., 87.
55Ibid., 100.
56Ibid., 88.
significance, a not significant increase in powerlessness, and no change in future orientation. In comparison for inactive TNO's there were significant increases in integration with relatives, isolation, powerlessness, alienation, and a significant decrease in particularism. Achievement orientation, future orientation, and normlessness remained unchanged, while activism decreased and anomie increased but not significantly.

Zurcher interpreted these results to indicate that quality of participation in poverty programs is related to the consequent social-psychological impact upon participants. All hypotheses in this study were supported by the findings, and all of the findings essentially support empowerment theory.

57 Ibid., 100.
58 Ibid., 100.
59 Ibid., 101.
CHAPTER 3
CONCEPTUAL FRAMEWORK

The purpose of this study is to determine the effect of participation in an environmental education program on the locus of control orientation of participating subjects. The theoretical framework of this study is empowerment theory which states that participation in decision making may enhance one's sense of empowerment (internal control, sense of power, control) and that empowered individuals are likely to be active in community organizations and activities. The empirical findings presented in the reviewed literature are evaluated from this theory's viewpoint.

The empirical findings reviewed tend to demonstrate the effect of participation (of some type) on one's sense of internal control (sense of power, empowerment). The findings present the occurrence of an increase in internal control as a result of participation. This thesis hypothesizes that as a result of children's learning via participation in an environmental education program, an increase toward internality will occur. The findings of the studies reviewed demonstrate this occurrence even though the type of program participation varied from study to study. The constant variable throughout each study was the active participation of
the subjects. Thus, this study predicted a change toward greater internality with participation in an environmental education program. Empowerment theory postulates that participation in decision-making may enhance one's sense of empowerment and that empowered individuals are likely to be active in community organization and activities.¹

For clarification of the similarities of psychological empowerment and internal control, the following definitions are provided. Psychological empowerment is a contextual oriented conception of empowerment that embraces the notion of person-environment fit. It includes, but is not limited to collective action, skill development and cultural awareness, and incorporates intrapsychic variables such as motivation to control, locus of control and self-efficacy.² As earlier indicated, locus of control, which consists of the internal-external control concept, emerged from social learning theory, which utilizes four basic concepts in predicting human behavior. These concepts are behavior potential, expectancy, reinforcement value and the psychological situation, which takes into consideration the contextual factors just as psychological empowerment does.³ Within this theory, locus


²Ibid., 174.

of control is defined as trying to determine a persons’ internal-external locus of control orientation in general or specific situations (environment, context).

When a reinforcement is perceived by the subject as following some action of his own but not entirely contingent upon his action, then, in our culture, it is typically perceived as the result of luck, chance, fate, or under the control of powerful others as unpredictable because of the great complexity of the forces surrounding him. When the event is interpreted in this way by an individual we have labeled this a belief in external control. If the person perceives that this event is contingent upon his own behavior or his own relatively permanent characteristics, this is termed as a belief in internal control.²

Both psychological empowerment and internal control concern a person’s degree of belief in themselves as having influence on events in their lives. Empowerment theory states that participation should increase a person’s internal control and this postulation has been supported by the empirical findings presented in the reviewed literature: Nowicki and Barnes (1973), Foulds (1987), Blazek and McCllellan (1983), Smith (1970), Zimmerman and Rappaport (1988), Keiffer (1984), Levens (1970), Zurcher (1970), all utilized some form of participation as the independent variable and some concept of internal control in their studies, in order to determine and demonstrate the result of subjects participating in some form of program and it’s impact on these subjects’ sense of internal control of events in their lives. Virtually all of the studies reviewed support empowerment theory. The type of

²Ibid., 40.
participation varied by a given study, but included: structured camp program, personal growth group, self-care instruction program, crisis intervention program, membership in community activities and voluntary organization, grassroots organization, Welfare Recipient League, and community action programs. For example, after participation in a summer camping experience, individuals' locus of control scores improved significantly in an internal direction.5

Additionally, participation in a study skills and college adjustment course increased individuals' locus of control orientation toward internality, from a previous external scoring state.6 The following shows varying types of participation in selected studies treated as the independent variable. Participation in a psychoeducational intervention program was used as a means of affecting locus of control orientation.7 Participation in a residential skill training program caused individuals to experience significant shifts


toward greater internality. Participation in a therapeutic day camping experience was used in an attempt to create positive change in children with adjustment or behavioral problems. Participation in a personal problem solving training program was utilized in a study with the purpose of increasing individuals ability to resolve personal problems. Participation in a therapy program created significant shifts in the internal direction for participating individuals. Participation in a cognitive affective stress management program was used to affect drinking reduction in heavy social drinkers. Participation in a stuttering prevention program was expected to decrease stuttering. Concomitant with improved speech, individuals also became

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progressively more internal in locus of control orientation.\textsuperscript{13} Participating in a self-help group brought about empowerment for those participating.\textsuperscript{14}

Pretsby states that participation provides a means by which individuals can develop (through attainment of skills, resources, knowledge, competence, efficacy) individual empowerment.\textsuperscript{15} "Participation" as used in this study is involvement in an environmental education program.


CHAPTER 4

METHODOLOGY AND DATA ANALYSIS

Setting and Sample Population

The data for this study were collected from a group of urban African-American youth aged 5-9 (n=40). Twenty-two girls and eighteen boys constituted the gender breakdown. The subjects participated in an environmental education program sponsored by the U.S. Forest Service. This program and its structure is known as the Atlanta Urban Tree House.

The Urban Tree House is a cooperative venture, initiated by the USDA Forest Service, to develop a national prototype of an urban forestry and natural resources education facility. The Tree House includes a structured forestry and natural resource education program for urban children taught by representatives from various cooperators. The Urban Tree House objectives include: actively and passively teaching the community's children and adults about the social and environmental value of trees and forests and their role as habitants, and teaching careers about forestry, natural resources, and the forest service. Other objectives are to increase awareness, knowledge, and involvement in forestry, conservation, environmental, and natural resources issues.
through environmental curricula, both as part of the tree house site and through direct teaching.

**Procedures**

The data for this study were collected from participating subjects at appointed times agreed upon with recreation and school officials in East Atlanta, Georgia. The Children’s Nowicki-Strickland locus of control scale was administered to the subjects and returned upon completion. This testing took place before the subjects’ full participation in the program. The Children’s Nowicki-Strickland locus of control questionnaire was administered a second time following the subjects participation and enhanced exposure to this program. Data were analyzed using the paired T-Test in order to determine the effect of the subjects’ participation on their locus of control orientation.

**Operationalization of Terms and Concepts**

The locus of control construct includes either an internal (a belief that an event is contingent upon one’s own behavior), or external orientation (a belief that an event is related to some action other than one’s own, such as fate.

Locus of control orientation is measured by utilizing the Children’s Nowicki-Strickland Locus of Control Scale, designed to assess internality/externality.

Participation is defined as involvement in an organized
activity in which the individual participates without pay to achieve a common goal.\textsuperscript{16}

Empowerment is defined as the process by which organizations, people and communities develop control over their lives. According to Rappaport, empowerment is easy to define; in its absence, it is powerlessness real or imagined, learned helplessness, alienation and loss of sense of control over one’s life.\textsuperscript{17}

Psychological empowerment is described as the connection between a sense of personal competence, a desire for, and a willingness to take action in the public domain.\textsuperscript{18}

Empowerment theory states that participation in decision-making may enhance one’s sense of empowerment and that empowered individuals are likely to be active in community organizations and activities.\textsuperscript{19} Within the first part of this theory’s statement, we find the independent and dependent variables of this study: participation (independent variable)


and sense of empowerment (internal control; dependent variable).

This study investigated the following hypothesis: Participation (in an environmental education program) will increase internality in the locus of control orientation of the subjects participating. The null hypothesis is that there will be no difference in the participants' locus of control orientation following exposure to the program.

Method of Analysis

This study used the paired T-test in order to test the null hypothesis. The paired T-test is appropriate for this study's hypothesis because the dependent variable is interval, and the data are being collected from the same people at different times, a correlated sample. Analysis of the data involved use of the computer software system, the Statistical Package for the Social Sciences (SPSSX).

Data Analysis

The analysis of data reveals that there was no significant change toward internality. Therefore, the null hypothesis of this study could not be rejected. The paired T-test showed a pre-test group mean of 6.9750 and a post-test group mean of 6.8750. The output showed 39 degrees of freedom.

for a T-value of -27; the probability level associated with this T-value was .788. Output showed a standard deviation of 2.259 for pre-test and 2.232 for post-test.
CHAPTER 5

CONCLUSION

The focus of this study is locus of control orientation and the effect of participation in an environmental educational program. This study attempted to determine the effect of participation on locus of control orientation.

Although a significant difference was not found, the data indicate that participants did show a slight gain in internality. But because of a lack of statistical significance (a probability greater than .05), it cannot be concluded that the environmental education program led to a heightened degree of internality. A number of limitations could well account for this finding. Additionally, correlations between locus of control and other instruments measuring self-esteem would have been advantageous to the study's findings.

Implications

Although past studies tend to suggest that participation in various structured programs is related to locus of control, this study found no significant difference. The literature reviewed, however, clearly shows that participation is related to internality. For this study there was a slight change in
pre-post group means, but no significant difference. This can be construed to imply that future environmental educational programs might benefit from implementing specific content that has been shown to effect significant change in locus of control orientation. Also, the findings would have been enhanced if a self-esteem scale had been used in light of the logical and statistical relationship of these two variables.

Summary

The focus of this study was locus of control orientation and the effect of participation in an environmental education program. The introduction and the literature review provided information for a better understanding of the relationship between locus of control and participation in structured programs. The conceptual framework presented empowerment theory as the appropriate theory for the purposes and variables of this study. In turn, these purposes and variables complimented the chosen methodology. The null hypothesis of this study was retained as there was no significant change toward internality as a result of participation.
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