

DOCUMENT RESUME

ED 406 951

HE 030 128

AUTHOR Linder, Fredric; Janus, Charles E.  
TITLE The Relationship of Locus of Control to Academic Performance among Dental Students.  
PUB DATE Feb 97  
NOTE 9p.; Paper presented at Annual Meeting of the Eastern Educational Research Association (Hilton Head, SC, February 1997).  
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)  
EDRS PRICE MF01/PC01 Plus Postage.  
DESCRIPTORS \*Academic Achievement; Attribution Theory; \*Dental Students; Field Dependence Independence; Higher Education; \*Locus of Control; Personal Autonomy; Self Concept; Self Concept Measures; \*Self Evaluation (Individuals); Statistical Analysis; Student Characteristics

ABSTRACT

This study examined the relationship of dental students' (N=145) perceptions of how much control they have over their environments to their academic achievement and to such demographic variables as age, gender, race, or ethnicity. Subjects were given a questionnaire to obtain demographic information and Rotter's Internal-External Locus of Control Scale. Results indicated that the students tended toward an external locus of control. There were no statistically significant differences between the demographic variables and locus of control. The study did find a statistically significant relationship between locus of control scores and preclinical grades, with students classified as internally oriented achieving higher preclinical course grades than those classified as externally oriented. A table lists locus of control scores for age and gender. (Contains nine references.) (CH)

\*\*\*\*\*  
\* Reproductions supplied by EDRS are the best that can be made \*  
\* from the original document. \*  
\*\*\*\*\*

The Relationship Of Locus OF Control To Academic Performance  
Among Dental Students

ED 406 951

Fredric Linder and Charles E. Janus  
Virginia Commonwealth University

"PERMISSION TO REPRODUCE THIS  
MATERIAL HAS BEEN GRANTED BY

Fredric Linder

TO THE EDUCATIONAL RESOURCES  
INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION  
Office of Educational Research and Improvement  
EDUCATIONAL RESOURCES INFORMATION  
CENTER (ERIC)

This document has been reproduced as  
received from the person or organization  
originating it.

Minor changes have been made to improve  
reproduction quality.

• Points of view or opinions stated in this docu-  
ment do not necessarily represent official  
OERI position or policy.

Paper presented at the annual meeting of the Eastern Educational Research Association,  
Hilton Head, S.C., February 1997.

AE 030128

## ABSTRACT

This study is concerned with the locus of control of dental students and its relationship to their academic performance . A brief questionnaire was administered to obtain student demographic information. The Rotter Internal-External Locus of Control Scale was used to assess students' perceptions of control or lack of control over their environment. Results indicated that as a whole students were externally oriented. No statistically significant differences were found between age groups, genders , ethnic or racial groups regarding locus of control. A statistically significant relationship existed between Locus of Control scores and pre-clinical course grades. Students who were classified as internally oriented achieved, as a group, higher course grades than students classified as externally oriented.

## INTRODUCTION

Adult learners bring to higher education individual differences such as gender, age, personality and values that in some way are related to their learning experiences. The literature concerning adult development and learning suggests that as age increases there is a change in the perception of one's control over environmental reinforcements (Knoop, 1981; Linder et al., 1986).

Social learning theory (Rotter, 1966; Lefcourt, 1982, 1983) attempts to describe and explain a person's sense of control or lack of control over their environment. The locus of control (LOC) construct stresses the idea that an individual's behavior is determined in part by their level of expectancy and reinforcement value. An internal LOC refers to the perception that the occurrences of reinforcements are contingent upon one's own ability and/or effort while an external LOC refers to the perception that fate, luck, or powerful others are in control.

This study is concerned with the locus of control of students enrolled in the dental program at the Medical College of Virginia, Virginia Commonwealth University in Richmond. More specifically, the goals of the research are:

1. To describe the locus of control orientation of students
2. To determine if students differ according to age, gender, race and ethnicity regarding LOC.
3. To describe any relationship that may exist between student locus of control and academic performance.

## METHOD

Students were enrolled in the School of Dentistry at Virginia Commonwealth University during the 1996-1997 academic year. Subjects ranged in age from 22 years to 41 years. There was a total of 145 students included in the study.

A brief questionnaire was administered to obtain student demographic information regarding age, gender, race and ethnic origin. Rotter's (1966) Internal-External Locus of Control Scale which consisted of 23 question pairs within a forced-choice format plus six filler questions was also administered. The I-E Scale has been judged appropriate for use with college educated adult subjects (Lefcourt, 1981). Grades from a pre-clinical course for all students involved in the study were gathered at the end of the Fall, 1996 semester and served as a measure of academic performance.

## RESULTS

Locus of control (LOC) mean scores for age and gender are presented in Table 1.

---

Insert Table 1 about here

---

A mean score below 8.5 is categorized as representing an internal LOC orientation according to Rotter (1966) and Lefcourt (1982) while a higher score is indicative of an external LOC orientation. Of the 101 male subjects 58% were classified as having an external LOC orientation and 68% of the 44 female subjects were so classified. Analysis of variance indicated that no statistically significant differences existed for age [ $F(1, 143) = .33, p = .57$ ] or gender [ $F(1, 143) = 1.37, p = .24$ ] on LOC mean scores.

Regarding race and ethnicity, analysis of variance indicated that no statistically significant relationship existed between LOC scores and ethnic origin [ $F(2, 142) = 1.48, p$

= .23]. All race and ethnic group mean scores were above the 8.5 cut off. For Asian students (N= 21), M = 9.6; White (N = 118), M = 9.8; American Indian, Black and Hispanic (N= 6), M= 12.7.

For the pre-clinical course taken by all students, analysis of variance indicated that a significant relationship existed between LOC and course grades [ $F(1,143) = 5.31, p = .02$ ]. Students (N=56) who were classified as internal LOC oriented achieved a significantly higher mean course grade (M = 86.7) than externally oriented students (N = 89, M = 83.7).

## DISCUSSION

While no statistically significant differences were found between the demographic variables and LOC there were some trends in that direction. For example, when subjects were divided into two age groups the older subjects' (25yrs.-41yrs.) LOC mean score was 9.7 while the younger subjects' (22yrs.-24yrs.) was 10.1. Similarly, the LOC mean score for males was 9.67 while for females it was 10.52. As reported earlier, the fact that all LOC mean scores were indicative of an external LOC orientation is contrary to past studies (Linder et al., 1987). The ethnic and racial data also appear to provide some interesting trends. While all LOC mean scores indicated an external LOC orientation the group composed of American Indian, Black and Hispanic had the highest mean score. Again, this difference was not statistically significant and it should be noted that this group was composed of only 6 subjects.

Fuller et al. (1982) have pointed out that the value placed on organizational rewards and the expectancies of obtaining those rewards determine individual efficacy and motivation. Ames (1984) has reported that an internal LOC orientation is related to achievement motivation within an educational setting. The fact that the results of the present study indicate an internal LOC orientation among the dental students is related to higher academic achievement lends additional support to this research. Furthermore,

when a regression analysis was used to determine if LOC was a predictor of grades the results , although not statistically significant ( $p = .07$ ) , indicated that LOC was negatively related to grades. A Spearman correlation between ranked LOC scores and grades also indicated a negative relationship existed between these variables ( $r_s = - 0.164$ ).

## REFERENCES

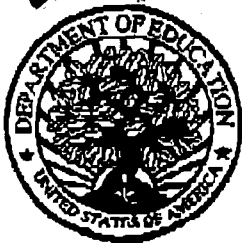
- Ames, R., and Ames, C. (Eds.) (1984) Research on motivation in education, Vol. 1: Student motivation. New York: Academic Press.
- Fuller, B., Wood, K., Rapport, T., & Dornbus, S.M. (1982) The organizational context of individual efficacy. Review of Educational Research, *52*, 7-30.
- Knoop, R. (1981) Age and correlates of locus of control. The Journal of Psychology, *108*, 103-106.
- Lefcourt, H.M. (Ed.) (1981) Research with the locus of control construct (Vol. 1). New York: Academic Press.
- Lefcourt, H.M (1982) Locus of control: Current trends in theory and research. Hillsdale, New Jersey: Erlbaum.
- Lefcourt, H.M. (Ed.) (1983) Research with the locus of control construct (Vol. 2). New York: Academic Press.
- Linder, F., Londoner, C., & Bauer, D. (1986) Locus of control and value orientations of adult learners in post secondary education, Wash., D.C.: G.W. University (ERIC Document No., ED 272 093).
- Linder, F., Londoner, C., & Bauer, D. (1987) Locus of control and values of adult learners in schools of business, dentistry and education, Wash., D.C.: G.W. University (ERIC Document No., ED 283 479).
- Rotter, J. B. (1966) Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, *80*, (1, Whole No. 609).



**Table 1. Mean Locus of Control Scores for Age and Gender**

<u>AGE</u>	<u>N</u>	<u>Mean</u>	<u>GENDER</u>	<u>N</u>	<u>Mean</u>
22 - 24	71	10.12	Male	101	9.67
25 - 41	74	9.74	Female	44	10.52

---



U.S. DEPARTMENT OF EDUCATION  
Office of Educational Research and Improvement (OERI)  
Educational Resources Information Center (ERIC)



# REPRODUCTION RELEASE

(Specific Document)

## I. DOCUMENT IDENTIFICATION:

Title: The Relationship of Locus of Control to Academic Performance Among Dental Students.	
Author(s): Fredric Linder and Charles E. Janus	
Corporate Source:	Publication Date: Feb 1997

## II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, *Resources in Education* (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic/optical media, and sold through the ERIC Document Reproduction Service (EDRS) or other ERIC vendors. Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce the identified document, please CHECK ONE of the following options and sign the release below.

Sample sticker to be affixed to document

Sample sticker to be affixed to document

### Check here

Permitting microfiche (4" x 6" film), paper copy, electronic, and optical media reproduction.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)"

Level 1

"PERMISSION TO REPRODUCE THIS MATERIAL IN OTHER THAN PAPER COPY HAS BEEN GRANTED BY

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)"

Level 2

or here

Permitting reproduction in other than paper copy.

### Sign Here, Please

Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted, but neither box is checked, documents will be processed at Level 1.

"I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce this document as indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries."

Signature: <i>Fredric Linder</i>	Position: <i>Professor</i>
Printed Name: Fredric Linder	Organization: Virginia Commonwealth Univ
Address: School of Education, Division of Educational Studies, Oliver Hall, 4th Floor P.O. Box 84220, Richmond, VA 23284-2020	Telephone Number: ( 804 ) 828-1332 X 557
	Date: <i>May 30, 1997</i>

OVER