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# Locus of control, personal causation, and occupational functioning with implications for the Model of Human Occupation

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LOCUS OF CONTROL, PERSONAL CAUSATION,  
AND OCCUPATIONAL FUNCTIONING  
WITH IMPLICATIONS FOR  
THE MODEL OF HUMAN OCCUPATION

by

Donald J. Shekailo

An Abstract

of a thesis in partial fulfillment of the  
requirements for the degree of Master of Science  
in the School of Health Sciences and Human Performance at  
Ithaca College

March 2000

Thesis Advisor: Carole Dennis, ScD, OTR

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Objective. Often, researchers and clinicians in the profession of occupational therapy have used measures of locus of control to assess personal causation. The validity of this practice is questioned. Therefore, the constructs of locus of control, personal causation, and occupational functioning are explored with implications for theory and practice within the field of occupational therapy. Since these are constructs introduced into the profession of occupational therapy through the Model of Human Occupation, implications for theory and practice within this model are particularly discussed.

Method. Thirty college students were given both the Rotter Internal/External Scale (1966) and a modified version of the Self-Assessment of Occupational Functioning (Baron & Curtin, 1986). Participants were scored on locus of control, personal causation, and occupational functioning.

Results. A small positive correlation was found between internal locus of control and both personal causation and occupational functioning ( $r = -.26$  &  $-.29$ , respectively). However, a strong positive correlation was found between personal causation and occupational functioning ( $r = .92$ ), and there was strong internal consistency found throughout the Self-Assessment of Occupational Functioning.

Conclusion. Measures of locus of control, in isolation, are not adequate to assess personal causation. Furthermore, the construct of personal causation as it is presented in the Model of Human Occupation may need to be reconsidered, and a measure of personal causation within the field of occupational therapy should be developed.

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A Thesis Presented to the Faculty  
of the School of Health Sciences and Human Performance  
Ithaca College

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In Partial fulfillment of the  
Requirements for the Degree  
Master of Science

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by  
Donald Joseph Shekailo

March 2000

Ithaca College  
School of Health Sciences and Human Performance  
Ithaca, New York

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CERTIFICATE OF APPROVAL

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This is to certify that the Thesis of  
Donald J. Shekailo

Submitted in partial fulfillment of the requirements for the degree of  
Master of Science in the Department of Occupational Therapy, School of Health  
Sciences and Human Performance at Ithaca College has been approved.

Thesis Advisor: \_\_\_\_\_

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Chair, Graduate Program in Occupational Therapy: \_\_\_\_\_

Dean of Graduate Studies: \_\_\_\_\_

Date: 10 / 4 / 00

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## Chapter 1. Introduction

Background, Problem, and Significance to OT

It is a long held belief in occupational therapy literature that persons with an external locus of control are more susceptible to role dysfunction, and an overall state of poor physical, mental, social, and emotional well-being (Spadone, 1992). Conversely, it is believed that persons with an internal locus of control are more effective in numerous life roles, more effective in their environments, and have better coping and adaptation skills. However, there is very little occupational therapy research that attempts to correlate locus of control with measures of occupational functioning.

The research in the field of psychology, which once proposed internal locus of control as being superior concerning overall functioning is changing. Locus of control is now known to vary with differing life domains (i.e. role of student vs. same person's role of athlete) and may even vary from situation to situation (Strickland, 1985). Rotter (1975) has stressed the idea that locus of control is a continuum, and cautions researchers about fitting persons into one of two groups. Furthermore, current psychology research on the topic has suggested that externals are superior to internals in several life roles (Cook & Chi, 1984).

Many occupational therapists feel that a goal of therapy is to facilitate a person with an external locus of control to become more internal (Janelle, 1992). This is due in part to the Model of Human Occupation (MOHO). Locus of control is often strongly associated with personal causation, a component of the volition subsystem of the MOHO. One's beliefs concerning personal causation are believed to be instrumental to occupational function, as the MOHO is an open system. Therefore, according to the

MOHO, there should be a significant correlation between locus of control and occupational functioning. If locus of control does not correlate with personal causation, nor occupational functioning, it may be that occupational therapists are retaining erroneous beliefs about locus of control that are affecting the focus and quality of their treatments.

#### Purpose

The primary purpose of this study is to examine the relationship between locus of control and occupational functioning as it is defined by the MOHO. According to the MOHO, locus of control is a predictor of personal causation, and personal causation is a component of the volition subsystem. One would expect to see a strong correlation between locus of control and personal causation if in fact locus of control is an adequate predictor of personal causation. In addition, since the MOHO is an open systems theory, one would expect to see a correlation between locus of control and the volition subsystem, and locus of control and all three subsystems of the MOHO (volition, habituation, and performance) which taken together comprise occupational functioning. A secondary purpose of this study is to examine the validity of the construct of personal causation as it proposed by the MOHO. Several studies have correlated locus of control with performance. If a correlation is found between locus of control and occupational functioning, but if personal causation does not correlate with either of these variables, there are three implications. First, locus of control may not be an insignificant component of the construct of personal causation. Second, since locus of control correlated more with occupational functioning than did personal causation, personal causation may not be

a valid construct. Third, the SAOF may not be a valid instrument to measure personal causation nor occupational functioning.

#### Definitions of Terms

Locus of control- the extent to which one believes the outcomes in his life are controlled by factors within himself (internal), or by external factors such as luck, fate or powerful others (Connell, 1985; Strickland, 1989). For the purposes of this study, locus of control will be measured using Rotter's (1966) Internal/External Scale.

Personal causation- one's sense of his current and future abilities (Kielhofner, 1997; 1995). For the purposes of this study, personal causation will be measured by the Self Assessment of Occupational Function (SAOF) (Baron & Curtin, 1986).

Occupational function- the degree to which a person satisfactorily meets his needs through successful interaction with his environment (Kielhofner, 1997; 1995). For the purposes of this study, occupational function will be measured by the Self-Assessment of Occupational Function (SAOF) (Baron & Curtin, 1986).

## Chapter 2. Literature Review

### Locus of Control Introduced

The concept of locus of control was first introduced in Rotter's Social Learning Theory (Rotter, 1954 as cited in Strickland, 1989). Generally, persons who believe that results occur because of their own behaviors and abilities are said to have an internal locus of control (Strickland, 1989). Persons viewing results as being controlled by luck, fate, chance or some power beyond their own control are said to have an external locus of control (Strickland, 1989). A study by Connell (1985) found there to be two distinct subdivisions of external locus of control: powerful others control and unknown control. Powerful others control suggests that the ability to affect outcomes resides in persons that have power; while unknown control suggests that outcomes are determined by some agent of which little or no knowledge exists (Connell, 1985). It may be possible that a person holds one locus for himself and yet believes that others hold an opposing locus of control (Gurin, Gurin, Lao, & Beattie, 1969 as cited in Furnham & Steele, 1993).

Although Rotter (1966) has stated that the locus of control scale that he developed is unidimensional, Sanger & Walker (1972) report two distinct subgroups and Mirels (1970); Cherlin & Bourque (1974) found two different subgroups; they are personal control and control ideology, and general control and political control respectively (as cited in Furnham & Steele, 1993).

"O'Brien (1981)...proposes four dimensions: internals (who believe in internal control across all situations), realists (whose internal and external beliefs vary as a function of the domain or situation they consider), structuralists (whose external beliefs stress societal determinants of behaviour) and fatalists (who see all outcomes as dependent on luck, fate or chance)" (Furnham & Steele, 1993, p.450).

Locus of control emerges from expectancy and reinforcement value (Strickland, 1989). Expectancy is the subjective perception held by an individual that a particular reinforcement will occur in a particular situation (Rotter, 1972). Reinforcement value is an individual's preference for a particular outcome when the probability of occurrence of all outcomes is held equal (Rotter, 1972). Rotter (1975) points out that many researchers fail to treat reinforcement value as a separate variable when measuring locus of control. In other words, many researchers have not delineated between expectancy and reinforcement value (Rotter, 1975; Furnham & Steele, 1993). Another delineation that should be made is between locus of control and attribution. While there is some overlap between measures of locus of control and attributional measures in research and literature, the focus of locus of control is future events, while the focus of attribution is past events (Lefcourt, 1991 as cited in Furnham & Steele, 1993).

#### Locus of Control and Perception

Several studies have shown that externality can be induced if a person's feelings of control are lessened or removed (Eisenman, 1972; Gore, 1962; and MacDonald et al., 1968 as cited in Natale, 1978). It has been proposed by Seligman (1975) that lack of control concerning outcomes may lead to feelings of depression (as cited in Natale, 1978). This is consistent with a 1985 study by Decker and Schulz who found that the highest correlate of depression in persons with spinal cord injuries is low perceived control. The results of Natale's 1978 study supported the hypothesis of correlation between depression and control; but he reversed the variables to show that the induction of depression increases externality, and conversely that the induction of elation increases internality. This demonstrates locus of control as a dynamic process. Barris, Dickie, &

Baron (1988) reported persons with a psychosocial dysfunction to be more external than the general population (as cited in Ebb, Coster, & Duncombe, 1989).

Feelings of helplessness and dependency on others are often correlated with an external locus of control, while the opposing personality traits of self-actualization and autonomy are correlated with an internal locus of control (Rotter, 1966). Helplessness is more likely to develop in the external; but even the internal, when placed in an environment that diminishes perception of control, may shift his locus of control and demonstrate learned helplessness (Solomon, 1990). The relationship between locus of control, helplessness, and depression in the elderly has been noted in over one hundred studies (Solomon, 1990). Among the elderly, societal beliefs regarding decreased functioning in all life domains may further contribute to learned helplessness (Solomon, 1990).

Persons with external locus of control tend to hold negative beliefs about their environments and tend to be less sensitive to changes in their environments. (Lau, Cheung, & Chau, 1982). External locus of control has also been positively correlated with feelings of alienation and exploitation (Lefcourt, 1972; Phares, 1976; Rotter, 1966 as cited in Lau, Cheung, & Chance, 1982). Almost universally, the literature suggests that internals have a more accurate and more positive view of their environments and that this leaves them better equipped to perform in their environments.

#### Locus of Control and Performance

In a 1982 study by Lau, Cheung, & Chau, Chinese students were presented with imaginative scenarios of positive and negative inequities. It was found that internals would work more quickly and have more positive feelings when being overpaid (Lau,

Cheung, & Chau, 1982). It was also found that both the work rate and the feelings of externals was unaltered by the presentation of either overreward or underreward in the forms of overpay and underpay (Lau, Cheung, & Chau, 1982). Because of their perception of exploitation, persons with an external locus of control may be unresponsive to an overreward situation since they view this as compensation for some prior injustice (Lau, Cheung, & Chau, 1982). In accordance with previous research (Lefcourt, 1972; Phares, 1976), the 1982 study by Lau, Cheung, & Chau indicated that internals are not only more sensitive to environmental changes; they are also more likely to respond to them.

Morris and Messer (1978) examined the relationship between locus of control and preferred type of reinforcement, either intrinsic or extrinsic, for fifth grade boys. The preferred type of reinforcement was measured by quality of task performance (Morris and Messer, 1978). Their research revealed that extrinsic reinforcement was more effective for externals; and that for internals, extrinsic reinforcement was equally effective as intrinsic reinforcement. (Morris and Messer, 1978). An implication of this study is that extrinsic reinforcement may be globally more effective than intrinsic reinforcement (Morris and Messer, 1978).

Research such as Latham and Yukl (1976) have findings that suggest that internals will set more difficult goals than externals and in general, perform better at tasks when compared to externals (as cited in Von Bergen, 1995). Findings from other studies also suggest that internals are better performers than externals, particularly at difficult tasks. (Von Bergen, 1995). It is hypothesized that this occurs because internals put faith in their own skills, and skill becomes more of a factor with increasing difficulty level of a

task (Von Bergen, 1995). However, the results of a study by Von Bergen (1995) do not support earlier findings. In Von Bergen's study (1995), it was found that internals perform better than externals only at tasks of moderate difficulty; externals performed better at both easy and hard tasks than did internals. Internals are better task performers when they believe that success is dependent on skill, whereas externals perform better when they believe that success is dependent on chance (Rotter & Mulry, 1965 as cited in Kren, 1992).

There have been several studies that show a correlation between locus of control and the ability to monitor and change physical responses. (Gosling, May, Lavond, Barnes, & Carreira, 1974; Hofferma-Colman, Sharpley, & King, 1992; Ray, 1974; Wagner, Bourgeois, Levenson, & Dentor, 1974 as cited in Hassmen and Koivula, 1996). Berggren, Ohman, & Fredriksson (1977) concluded that internals have better control of attention than externals (as cited in Hassmen and Koivula, 1996). Previous research by Phares (1976) reveals that internals acquire and process information more thoroughly and independently than externals, and that internals are better at focusing on relevant information, and ignoring irrelevant environmental cues (as cited in Hassmen and Koivula, 1996). When self-rating exertion levels, externals report higher levels of exertion than internals when objective measures show exertion levels to be equal between the two groups (Hassmen and Koivula, 1996). This difference was small at low work loads and high at high work loads (Hassmen and Koivula, 1996). This seems to support the hypothesis that internals are better at information processing, because more bodily cues are given off at higher work loads, and the greater difference in self-reported exertion levels between internals and externals occurred at high work loads (Hassmen

and Koivula, 1996). It is proposed that externals may be poor at establishing cause and effect, may weight one or several factors too heavily or too lightly, or may have poor information processing skills in general (Hassmen and Koivula, 1996)

Bates and Rankin-Hill (1994) proposed that increased sense of control contributes to adequate coping (as cited in Hassmen and Koivula, 1996). Studies by Janoff-Bullman (1979, 1982) have supported this hypothesis. Janoff-Bullman found that rape victims tend to have a better adjustment process if they view the rape as something that was in their control, and thus preventable in the future (as cited in Strickland, 1989).

There are also many implications for locus of control in the workplace. Spector (1982) proposed that since internals find direction for action within themselves, internals are better suited for job tasks that require initiative (as cited in Blau, 1993). Conversely, when the job task requires compliance such as the following of a supervisor or corporate policy, the external would perform better due to his dependence on factors outside of self (Spector 1982 as cited in Blau, 1993). Incentives tend to be more effective in motivating the performance of internals, while directive leadership is more effective for externals (Spector, 1982 as cited in Kren, 1992). Research by Blau (1993) revealed that locus of control is a factor related to initiation and compliance in the workplace. He also noted that the relationship between locus of control and the variables that he studied varied depending on the measure used; Rotter's (1966) general internal/external scale or Spector's (1988) work locus of control measure (Blau, 1993).

Internals are more likely to perceive that they are autonomous at their jobs and receive greater amounts of feedback (Kimmons and Greenhaus, 1976 as cited in Renn &

Vandenberg, 1991), and they are less likely to leave their jobs (Andrisani & Nestel, 1976; Organ & Greene, 1974a as cited in Renn & Vandenberg, 1991).

When a crisis in the workplace arises, business owners who are internal tend to take an active problem solving approach, while those who are external demonstrate a passive response (Anderson, Hellriegel, & Slocum, 1977 as cited in Kren, 1992). Internals are also more likely to put greater effort into the attainment of a reward (Kren, 1992). Performance incentives motivate internals to a larger degree than they motivate externals (Kren, 1992). Consistent with their belief system, internal employees feel that they control their own time more so than externals (Mitchell, Smyser, & Weed, 1975 as cited in Kren, 1992). Internals prefer to participate in decision making processes while externals tend to prefer directive and structured leadership (Kren, 1992); each will perform better if his preferred situation is present (Brownell 1981, 1982 as cited in Kren, 1992). Inconsistent with these findings, however, is a 1975 study by Mitchell, Smyser, & Weed, who found that both internals and externals are more satisfied when their participation is possible (as cited in Kren, 1992). Kren's (1992) study revealed that internals are better performers than externals only when incentives were provided, and that internals do perform better when a great deal of participation is allowed, but that externals are not better performers when participation is low.

#### Locus of Control and Social Behavior

Lefcourt (1982) suggested that externals can be persuaded with less difficulty than internals (as cited in Avtgis, 1998). There is also research that suggests that the persuasion process is situational, and that many environmental factors, not just locus of control, play a part in one's susceptibility to persuasion (Brownell, 1982; Ritchie and

Phares, 1969 as cited in Avtgis, 1998). Further literature on locus of control report that internals and externals will differ in social anxiety (Low, Gormanous, & Kersey, 1978; McCroskey, Daly, & Sorenson, 1976; Rubin, 1993), and in cognitive processing (Wolk and DuCotte, 1974), perhaps contributing to social persuasion (as cited in Avtgis, 1998). Literature also specifically reports that behavior and attitude is more easily altered in externals (Avtgis, 1998). A recent study by Avtgis (1998) confirmed prior findings that externals are more susceptible to be influenced and persuaded, and are more likely to conform, than are internals. In support of these findings is a study by Crowne and Liverant (1963) who found internals to demonstrate less conforming and more independent behavior than externals (as cited in Strickland, 1989). Strickland (1970) and Gore (1962) found that it was more difficult to influence internals as opposed to externals (as cited in Strickland, 1989). It is also believed that internals have a better ability to influence others. This belief is supported by a 1965 study by Phares who found that experimenters with an internal locus of control were able to exert a greater amount of social influence on research participants than were the experimenters with an external locus of control (as cited in Rotter, Chance, & Phares, 1972). Strickland (1965, 1984b) found that internals tended to be more involved in social activism than externals when age and education were controlled (as cited in Strickland, 1989).

There is also literature that has examined the influence of locus of control on cooperation. When dyads of external children were assigned a task, they were found to be cooperative; whereas the dyads of internal students or mixed internal-external dyads both demonstrated competitive behavior (Cook and Chi, 1984; Cook and Sloane, 1984; Sloane, 1979 as cited in first authors). The fact that the mixed internal-external dyads

became competitive may support the belief that internals have greater social influence because the trait of the internal became the characteristic of the group (Cook and Chi, 1984).

#### Locus of Control and Issues of Race, Age, and Gender

It has been shown in cross-cultural research that groups with access to power and economic advancement are on the whole more internal than groups who lack this same access (Battle and Rotter, 1963; Garza, 1978; Hsieh, Shybat, & Lotsof, 1969; Knight, Kagan, Nelson, & Gambiner, 1978; Phares, 1976; Scott and Phelan, 1969 as cited in Cook and Chi, 1984). Eberhard (1965) concluded that the Chinese population tends to be external in their locus of control (as cited in Cook and Chi, 1984). A 1969 report by Hsieh et al. listed Anglo-American students as being more internal than American-born Chinese students (as cited in Cook and Chi, 1984). A 1984 study by Cook and Chi confirmed findings that Anglo-Americans tend to be more internal than Chinese-Americans. There have also been differences found between Blacks and Whites; for example, Zytoskee, Strickland, & Watson (1971) found Black ninth graders to be more external than White ninth graders (as cited in Strickland, 1989). Spadone's study (1992) revealed a non-significant difference in locus of control between White Americans and Asian Americans. These findings do not support a large amount of literature that has documented that locus of control differs across cultural variations (Spadone, 1992). It is hypothesized that while Asian Americans and White Americans may differ in locus of control in various domains, there is no overall, summed difference (Spadone, 1992)

It is believed that differences in age and gender may also affect locus of control. There is emerging evidence that a child's perception of control changes throughout

development, thereby affecting their perceptions of success relative to a particular task (Coster & Jaffe, 1991). While younger children tend to use objective cues to determine their level of competence, older children are more likely to judge their own competence by comparison to a social norm (Coster & Jaffe, 1991). Connell (1985) found that as the age of a child increases, locus of control attributed to the unknown decreases, probably because children are gaining greater insight into the causes of their successes and failures. Some gender differences were also observed in Connell's study (1985). It was found that in the cognitive domain, boys were more likely than girls to attribute control to powerful others or the unknown (Connell, 1985). It was also found that in the social domain, boys were more likely than girls to attribute control to powerful others (Connell, 1985).

#### Locus of Control and Health Care

There is increasing evidence that locus of control has an effect on physiology (Strickland, 1989). There is also evidence that locus of control affects behaviors related to health (Chen, Neufeld, Feely, & Skinner, 1999); and a sub-division of locus of control, known as health locus of control, was constructed (Wallston & Wallston, 1978 as cited in Chen, Neufeld, Feely, & Skinner). Clients with either an internal or powerful others health locus of control, when compared to clients with a chance-centered health locus of control, were found to demonstrate more compliant behavior (Fronczek, 1985; Kiley et al., 1993; Schlenk & Hart, 1984 as cited in Chen, Neufeld, Feely, & Skinner, 1999). However, a recent study found internal health locus of control to have an inverse relationship to compliance (Chen, Neufeld, Feely, & Skinner, 1999). A study by Johnson, Magnani, Chan, & Ferrante (1989) reported that externals relate the experience of greater pain and less satisfaction with painkillers than internals (as cited in Hassmen and

Koivula, 1996). Intelligence being controlled, Seeman and Evans (1962) found internal patients to be more knowledgeable about their illnesses, to be more questioning of staff, and to be less satisfied with the staff than externals (as cited in Strickland, 1989). Among older adults who are not living in institutional settings, external locus of control has been correlated with depression (Hanes & Wild, 1977 as cited in Pilisuk, Montgomery, Parks, & Acredolo, 1993). Among older adults living in nursing homes, treatments geared to increase internal control have been correlated with longevity (Langer & Rodin, 1976; Rodin & Langer, 1977 as cited in Pilisuk, Montgomery, Parks, & Acredolo, 1993). An elderly person with an external locus of control may perceive discomfort and distress to be longer lived and difficult to manage, whereas elderly persons with an internal locus of control demonstrate positive coping skills including retaining social supports (Pilisuk, Montgomery, Parks, & Acredolo, 1993). An internal locus of control combined with a strong social support system increased the level of self-perceived health in older men who are experiencing symptoms of poor health (Pilisuk, Montgomery, Parks, & Acredolo, 1993). Older adult men with an external locus of control both report poorer health and actually experience more symptoms of poor health when compared to internals (Pilisuk, Montgomery, Parks, & Acredolo, 1993).

Steinhausen (1982) found children with either a psychophysiological or a chronic illness to be more internal than their healthy peers, perhaps because the necessary attention to their own health gives them a sense of control (as cited in Barris et al., 1986). Moffat & Pless (1983) found that external adolescents with diabetes tend to manage their disease poorly, but that when instructed on better management skills, these same adolescents became more internal (as cited in Barris et al., 1986)

A study by Janelle (1992) found that there was no difference in locus of control between adolescents with disabilities and adolescents without disabilities. Former studies such as Land and Vineberg (1965), reported that children with disabilities were more likely to be external (as cited in Janelle, 1992). One relationship found in Janelle's study (1992) was that adolescents with disabilities tended to be more external in the domain of strength than their peers without disabilities, supporting the belief that locus of control is multidimensional.

In a recent study by Unsworth (1996), the sample population was rated as externals, however, they all commented that they should be involved in their discharge process, and if they were not they expressed dissatisfaction. These findings do not support earlier research. Coulton et al. (1989) found that one of the variables that affected client distress during discharge was locus of control (as cited in Unsworth, 1996). One of the findings of Coulton et al. (1989) was that perception of low involvement in the discharge process was only stressful for internals and not externals (as cited in Unsworth, 1996).

#### Reflection on Locus of Control

Clearly some assumptions have been made about one's locus of control, usually with internality being regarded as the positive trait (Rotter, 1975). However, it is more logical to conclude that each trait has its own positive and negative attributes than it is to assume that only positive traits are associated with internality, and only negative traits with externality (Furnham & Steele, 1993). The trend in which internals tend to perform better on various measures may be due to their tendency to not disclose experiences of failure (Efran, 1963; Lipp, Kolstoe, James, & Randall, 1968; Phares, 1968 as cited in

Rotter, 1975), possibly due to the fact that an internal locus of control predisposes one to greater self-esteem damage during failure (Furnham & Steele, 1993).

### Locus of Control and The MOHO

The Model of Human Occupation is composed of three subsystems: volition, habituation, and performance (Kielhofner, 1997; 1995). The volition subsystem encompasses all of the factors that provide a person's motivation for engaging in occupational behavior (Kielhofner, 1997; 1995). These motivational factors are acquired through an individual's behavior and perception of his local and global environment, and this will greatly influence that person's beliefs of self-efficacy and his beliefs concerning means to achieve satisfaction (Kielhofner, 1997; 1995). "Volition is defined as a system of dispositions and self-knowledge that predisposes and enables persons to anticipate, choose, experience, and interpret occupational behavior." (Kielhofner, 1997, p.190). The three specific areas that are instrumental to the volitional subsystem are personal causation, values, and beliefs (Kielhofner, 1997; 1995).

Personal causation is developed through experience (Kielhofner, 1997; 1995). Through experience, one develops a sense of his current and potential abilities (Kielhofner, 1997; 1995). These abilities include control of behavior, emotions, and outcomes (Kielhofner, 1997). Personal causation can be explained by two key elements: efficacy and capacity (Kielhofner, 1997). Any disability may cause a dysfunction in personal causation, the hallmark signs being feelings of inadequacy, feelings of shame, and fear of failure (Kielhofner, 1997, 1995). When one holds negative beliefs concerning personal causation, depression and demoralization may occur as well as decreased ability in decision-making, development and adaptation (Kielhofner, 1997). "Feelings of

inefficacy often lie at the core of a cycle of dysfunction, locking persons into a cycle of acting and feeling ineffective.” (Kielhofner, 1997, p.197)

“A number of writers have offered similar concepts which address the phenomena of self-knowledge concerning personal ability, capacity, or control. One of the most widely researched concepts is perceived locus of control or perceived control (Rotter, 1960; Lefcourt, 1981)...” (Kielhofner, 1995, p.42). A similar but not equivalent concept to locus of control is perceived competence (Kielhofner, 1995).

“In contrast to locus of control which emphasizes self-knowledge about influencing consequences, perceived competence emphasizes awareness of specific abilities. Other writers also make this distinction between the perception that one has specific abilities or aptitudes [perceived competence] and the belief that one can affect desired outcomes in life [perceived control/ locus of control] (Skinner, Chapman, & Baltes, 1988; Fiske & Taylor, 1985).” (Kielhofner, 1995, p.43).

The term locus of control gained popularity in the profession of OT primarily through the Model of Human Occupation (Henry and Coster, 1997). Locus of control is associated with personal causation, a part of the volition subsystem, and therefore instrumental in environmental effectiveness as defined by the MOHO (Coster & Jaffe, 1991; Henry and Coster, 1997). The MOHO replicates the underlying concepts of several motivation theories in that a person’s chosen activities are strongly influenced by his or her locus of control and competency beliefs (Kielhofner, 1985; Abramson, Seligman, & Teasdale, 1978; deCharms, 1968; Weiner, 1972; White, 1959 as cited in Coster & Jaffe, 1991). The MOHO suggests that internals are more able to be effective in their environments due to superior motivation and self-encouragement (Kielhofner, 1985 as cited in Coster & Jaffe, 1991). Conversely, the MOHO suggests that externals are more likely to have mood disturbances, hold irrational values, have poor social skills, have poor adjustment skills,

experience less satisfaction in life, and perceive themselves as ineffective in their environments (Harrow & Ferrante, 1969; Strickland, 1978; Hersch and Scheibe, 1967; Youkilis & Bootzin, 1979 as cited in Oakley, Kielhofner, & Barris, 1985). Barris, Kielhofner, Neville, et al. (1985, p.249) wrote that "researchers have consistently found that the greater belief in external control, the greater degree of psychological disturbance" (as cited in Spadone, 1992). The MOHO further suggests that a physical disability has the potential to create a more external disposition (Kielhofner, 1985 as cited in Coster & Jaffe, 1991). It therefore logically follows that locus of control be an area of OT assessment and treatment (Coster & Jaffe, 1991). In other OT literature it has also been proposed that it is the goal of the occupational therapist to help an external become more internal. "Occupational therapists have many therapeutic strategies to offer the disabled population with external beliefs to help them develop a more internal locus of control, to gain self-confidence and coping skills to become more functional, and to enjoy an improved quality of life as their limitations are overcome." (Janelle, 1992, p.340). "No matter what the experiences one has, if they are not perceived as the results of one's own action, they are not effective for altering the ways in which one sees things and consequently the way one functions" (Lefcourt, 1982, p.35 as cited in Coster & Jaffe, 1991, pp. 19-20).

OT literature consistently identifies internal locus of control as a sign of overall well-being. This may be due to the work of Kielhofner and the MOHO. It is also a possibility that internals are viewed as having better well-being because they fit in to the OT philosophy of self-empowerment.

Unsworth (1996, p.208) restates Lefcourt (1982) by writing "Locus of control is the extent to which persons believe that they have control over their lives. Persons with an internal locus of control exhibit assertive behavior and potency over their environment, whereas persons with an external locus of control may believe that they are powerless to control life events."

Numerous studies support beliefs that internals are more in tune to relevant environmental information, more likely to act to change their environment, are generally more likely to be concerned with ability, and are more resistive to societal influence (Rotter, 1966). When informed of personal shortcomings, internals are more likely to seek remediation (Janelle, 1992). Present, but less supported in research, is the belief that externals have a more liberated attitude to relationships, a more realistic perception of social influence, a greater tolerance of chaos, and a less overt need for power (Janzen and Beeken, 1973 as cited in Janelle). It seems that in the OT literature any positive aspects of externality have been ignored, or at least, unexplored.

In spite of the general superiority of internality in the OT literature, some of the same works have discussed the situational variance of locus of control. Dependent on the situation, either internal or external locus of control may be more appropriate (Unsworth, 1996). Locus of control continuum theory proposes that beliefs of internality and externality change throughout life events (Rotter, 1966). A person is characterized as his current stage of control, and for healthy coping, most people need a balance between the two (Rotter, 1966).

The components of the MOHO are believed to be applicable to all persons regardless of cultural variations largely because a large body of knowledge in the MOHO was derived from the behavioral sciences (Katz, Giladi, & Peretz, 1988). Personal causation is most commonly measured by measures of locus of control, particularly

Rotter's (1966) Internal/External Locus of Control Inventory (Katz, Giladi, & Peretz, 1988). Katz, Giladi, & Peretz (1988) found locus of control to be more external among Israeli psychiatric patients than among an Israeli control group, and they also noted that older psychiatric patients had a more external locus of control than younger patients. Internal/External Locus of Control Inventory has been translated into other languages with good reliability, making it practical to use when studying other cultures (Katz, Giladi, & Peretz, 1988).

Although locus of control measures have commonly been used to assess personal causation, locus of control alone is not equivalent to personal causation as it is defined in the MOHO (Henry and Coster, 1997). Beliefs about competence and beliefs about control taken together form the concept of personal causation, and it is the combination of these two beliefs that may be the prerequisite for successful role performance (Henry and Coster, 1997). Bandura (1986) pointed out a relationship between self-efficacy and locus of control (as cited in Henry and Coster, 1997). Success will serve to improve self-efficacy only if that success is believed due to internal and not external factors (Bandura, 1986 as cited in Henry and Coster, 1997). Internal locus of control is generally viewed as the positive personal characteristic, however, the feeling that one's own behavior determines outcome could have positive or negative effects on an individual based on his or her beliefs of self-efficacy (Bandura, 1986 as cited in Henry and Coster, 1997). Harter and Conell (1984) suggest locus of control to be the first link of a chain where control affects achievement, and achievement affects perceived competence (as cited in Henry and Coster, 1997). Bandura (1986), and Harter and Conell (1984) proposed that in conjunction with beliefs of control and competence, social environment, ability, mood,

value, interests, socioeconomic status, and extrinsic incentives all have an influence on the occupational performance of the adolescent (as cited in Henry and Coster, 1997).

“The volition subsystem motivates the person to interact with the environment.” (Barris, Kielhofner, Martin, Gelinias, Klement, & Schultz, 1986, p.303). “Occupational dysfunction reflects disorganization in any of the subsystems; it is manifested in occupational behaviors that do not satisfy either the individual’s goals or the expectations of the environment.” (Barris et al., 1986, p.303). The MOHO is an open system, so if there is dysfunction in one system, there will be dysfunction throughout the person as a whole (Ebb, Coster, & Duncombe, 1989). If research only examines one variable within the MOHO, it neglects the interaction of systems that the model proposes (Ebb, Coster, & Duncombe, 1989). This study will examine the relationship between locus of control, personal causation, and occupational functioning, thereby exploring the interaction of key variables within the MOHO.

## Chapter 3. Methodology

### Questions

There are three questions that this study attempted to answer.

1. Is there a significant relationship between locus of control and personal causation?
2. Is there a significant relationship between personal causation and occupational functioning?
3. Is there a significant relationship between locus of control and occupational functioning?

### Participants and Selection Method

Participants were selected in a manner that would control for extraneous variables such as education level, socioeconomic status, and gender. Participants were recruited from freshman or sophomore occupational therapy courses at Ithaca College with the permission of the professor (Appendices A & B). All participants were selected based on their willingness to participate without any enticement offered. Participants were excluded from the study if they had taken 200 or higher level course in psychology or 300 or higher level courses in occupational therapy, as the researcher felt that previous exposure to the topics of interest would bias the results. A total of 30 students participated in the study, of which the vast majority was female. Participants completed a survey that contained both the Rotter (1966) Internal/External Scale and the modified version of the SAOF, in respective order (Appendices C & D). Participants were allowed 30 minutes to complete the survey. The actual time that the participants required to complete the survey ranged from 8-12 minutes.

### Measurement Instruments

The Rotter (1966) Internal/External Control Scale, the oldest and most researched measure of locus of control, was used to measure locus of control (Appendix C).

“Rotter’s (1966) scale remains the most widely known and still probably the most well-used despite being among the shortest scales and one of the few scales to use the forced-choice technique (frequently criticized by psychometricians).” (Furnham & Steele, 1993, p.452). “The Rotter scale has been translated, shortened, factor analyzed, modified, adapted and extensively criticized but is still the ‘grandfather’ (or perhaps the ‘godfather’) of all the locus of control measures. Hence its concurrent, construct and predictive validity are well known and, given the scale’s generality and length, these are impressively high.” (Furnham & Steele, 1993, p. 452).

However, since the publication of Rotter’s work on social learning, certain precepts concerning locus of control have been questioned (Henry and Coster, 1997; Strickland, 1989). The most common flaw identified in Rotter’s original theory is the concept of unidimensional locus of control (Henry and Coster, 1997). Contrary to the belief of unidimensionality or generalization, it was found that locus of control varies according to various life roles (Connell, 1985). It has also been suggested that locus of control is not static; instead, it is a dynamic process that is specific to each situation (Weiner, 1979 as cited in Henry and Coster, 1997).

A common fallacy among researchers is to use a generalized expectancy scale, such as Rotter (1966), to measure a specific area of performance (Furnham & Steele, 1993; Rotter, 1975). Still another problem is the defensive external, the person who gives

external responses on a questionnaire as a defense mechanism against failure, but in his behavior demonstrates the characteristics of an internal (Rotter, 1975).

As with all questionnaires, the Rotter (1966) Internal/External Scale is subject to error that results from numerous factors present during the testing which includes knowledge of what is being tested from past experiences (Rotter, 1975). Measures of locus of control are particularly subject to issues of stability and temporality (Furnham & Steele, 1993). Beliefs concerning locus of control may differ depending on the length of time in which the event is expected to occur (Furnham & Steele, 1993). This is a potential problem in both the design of instrument and in test-retest reliability (Furnham & Steele, 1993).

Both personal causation and occupational function were measured with the Self-Assessment of Occupational Functioning (Baron & Curtin, 1986) that was slightly modified by the researcher (Appendices D & E). In the original Self-Assessment of Occupational Functioning (SAOF), a statement concerning occupational function is given, such as, "Knowing my abilities", and the respondent rates it as, "strength", "adequate", or "needs improvement". In the present study, all statements from the SAOF were worded as strengths, such as "One of my strengths is knowing my abilities" and the participant was asked to rate his agreement on a nine-point Lickert scale from strongly disagree to strongly agree. Reliability and validity of this modified version have not been calculated. Reliability and validity of the standard SAOF are as follows. Regarding test-retest reliability, Henry, Baron, Mouradian, & Curtin (1999) found an ICC of .87 for the total score of the SAOF with lower coefficients for the four subscales; volition: .70, habituation: .74, performance: .74, and environment: .68. Internal consistency resulted in

a Cronbach's alpha value of .88 for the total score with lower values for the four subscales; volition: .83, habituation: .70, and performance: .66 (Henry et al., 1999). Using a Spearman-rho correlation test, they found concurrent validity to be moderate or low, depending on the subscale in comparison with the Self-Perception Profile (Henry et al., 1999).

### Procedures

Participants were asked to complete first the Rotter (1966) Internal/External Scale and then the modified SAOF. Participants were allowed 30 minutes to complete both surveys. The actual time that it took participants to complete both surveys ranged from 8-12 minutes. Spearman-rho Correlation Test was used to measure the correlation between the variables of interest: locus of control, personal causation, and occupational functioning.

### Scope and Limitations of Studies

The first limitation of this study is the relatively small sample size. Second, all of the participants were college students so the results may not be generalized to the general population or to populations with disabilities. Further research with college students utilizing a larger sample size, and research with the general and disabled populations are indicated.

Another limitation of the study was the instruments used. The Rotter (1966) Internal/External Scale is often criticized for its forced-choice format, and the fact that there is no domain-specificity. Also, for the purposes of this study, the SAOF was modified by the principle investigator. For this reason, the validity of the instrument, as reported by Henry, Baron, Mouradian, & Curtin (1999) may have been compromised.

Another limitation that was created by the researcher is the use of the SAOF to measure personal causation. Although the first six questions of the SAOF are intended as being indicative of personal causation, it is not the purpose of the instrument to assess personal causation, rather occupational functioning as a whole.

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## Chapter 4. Manuscript

Objective. The Model of Human Occupation (MOHO) is composed of three subsystems: volition, habituation, and performance (Kielhofner, 1995). The measure of overall success in occupations within the MOHO is occupational functioning. Effective occupational functioning will occur only when each subsystem is free of dysfunction since the MOHO is an open system. Each subsystem can further be divided into components. The components of the volition subsystem are personal causation, values, and beliefs. Attempts have been made to relate these components to similar constructs in other disciplines. Of relevance to this article is the variable locus of control within the component personal causation. Often, researchers and clinicians in the profession of occupational therapy have used measures of locus of control to assess personal causation. The validity of this practice is questioned. Therefore, the constructs of locus of control, personal causation, and occupational functioning are explored with implications for theory and practice within the field of occupational therapy. The study examined the degree to which each of these constructs could predict the others. Since these are constructs introduced into the profession of occupational therapy through the Model of Human Occupation, implications for theory and practice within this model are particularly discussed.

Method. Thirty college students were given both the Rotter Internal/External Scale (1966) and a modified version of the Self-Assessment of Occupational Functioning (Baron & Curtin, 1986). Participants were scored on locus of control, personal causation, and occupational functioning.

Results. A small positive correlation was found between internal locus of control and both personal causation and occupational functioning ( $r = -.26$  &  $-.29$ , respectively). However, a strong positive correlation was found between personal causation and occupational functioning ( $r = .92$ ), and there was strong internal consistency found between all the items of the Self-Assessment of Occupational Functioning.

Conclusion. Measures of locus of control, in isolation, are not adequate to assess personal causation. Furthermore, the construct of personal causation as it is presented in the Model of Human Occupation may need to be reconsidered, and a measure of personal causation within the field of occupational therapy should be developed.

### Introduction

The construct locus of control gained popularity in the profession of occupational therapy through the Model of Human Occupation (Kielhofner, 1995). Locus of control emerged from Rotter's work on Social Learning Theory. Persons who believe that results occur because of their own behaviors and abilities are said to have an internal locus of control; while persons who believe results to be controlled by luck, fate, chance, powerful others, or some unknown power beyond their own control are said to have an external locus of control (Rotter, 1966). Locus of control is associated with personal causation (Kielhofner, 1995), and it has therefore received attention as being instrumental in effective occupational functioning as defined by the Model of Human Occupation (Coster & Jaffe, 1991; Henry & Coster, 1997). According to the Model of Human Occupation, effective occupational functioning is having no difficulty in the performance, organization, and selection of occupations (Kielhofner, 1995). The sign of effective occupational

functioning, according to the model, is the ability to meet expectations of the environment and achieve satisfaction with one's own life (Kielhofner, 1995).

The Model of Human Occupation is composed of three subsystems: volition, habituation, and performance (Kielhofner, 1995). Personal causation, along with values and beliefs, form the volition subsystem (Kielhofner, 1995). The volition subsystem encompasses all of the factors that provide a person's motivation for engaging in occupational behavior (Kielhofner, 1995). These motivational factors are acquired through an individual's behavior and the perception of his or her local and global environment, influencing beliefs of self-efficacy and beliefs concerning means to achieve satisfaction (Kielhofner, 1995). "Volition is defined as a system of dispositions and self-knowledge that predisposes and enables persons to anticipate, choose, experience, and interpret occupational behavior." (Kielhofner, 1997, p. 190).

Personal causation, which is developed through experience, is one's sense of his or her current and potential abilities (Kielhofner, 1995). These abilities are focused on control of behavior, emotions, and outcomes (Kielhofner, 1997). When one holds negative beliefs concerning personal causation, depression and demoralization may occur; as well as decreased ability in decision making, development, and adaptation (Kielhofner, 1997). Any disability may cause a dysfunction in personal causation; the hallmark signs being feelings of inadequacy, feelings of shame, and fear of failure (Kielhofner, 1995). "Feelings of inefficacy often lie at the core of a cycle of dysfunction, locking persons into a cycle of acting and feeling ineffective." (Kielhofner, 1997, p. 197). There are several constructs in various disciplines that are similar to personal causation, among which is locus of control, one of the most researched (Kielhofner, 1995). Personal

causation is most commonly measured by locus of control instruments, particularly Rotter's (1966) Internal/External Scale (Katz, Giladi, & Peretz, 1988). It should be noted that the Model of Human Occupation proposes locus of control to be similar, but not equivalent, to personal causation (Henry & Coster, 1997). It has been suggested that beliefs about competence and beliefs about control taken together form personal causation, and it is the combination of these two beliefs that may be the prerequisite for successful role performance (Henry & Coster, 1997). The purpose of this study is to explore the relationship between locus of control, personal causation, and occupational functioning.

There is a great deal of research on the construct of locus of control, and many of the findings have strong implications for occupational therapy.

"A series of studies provides strong support for the hypotheses that the individual who has a strong belief that he can control his own destiny is likely to (a) be more alert to those aspects of the environment which provide useful information for his future behavior; (b) take steps to improve his environmental condition; (c) place greater value on skill or achievement reinforcements and be generally more concerned with his ability, particularly his failures; and (d) be resistive to subtle attempts to influence him." (Rotter, 1966, p.25).

Internals exert control over the environment while externals feel controlled by their environment (Rotter, 1966). For this reason, the internal tends to prefer tasks that require skill, and the external tends to prefer tasks that are based on chance (Rotter, 1966; Lefcourt, 1982). Generally, there is a direct relationship between an internal locus of control and a stronger drive for achievement (Rotter, 1966). Internals also appear to be better than externals at dealing with stress (Lefcourt, 1982). Whether the stress is physical or psychosocial, short-term or long term, internals are more likely to cope with the stress and develop a successful outcome (Lefcourt, 1982). Sweden and Japan,

countries with the highest suicide rates, also have the highest degree of externality (Lefcourt, 1982). Influence of a social group tends to motivate externals to a greater extent than internals (Avtgis, 1998; Lefcourt, 1982). The internal will endure a greater amount of suffering in doing what he believes to be right than will the external (Lefcourt, 1982). Lefcourt (1982, p.58) implies that internals are the “responsible actors” and externals are the “pawns”. “Internals engage in their life tasks with curiosity as to the purposes and meanings of those tasks.” (Lefcourt, 1982, p. 78). Externals, on the other hand, prefer directive, structured environments (Lefcourt, 1982). They need to be convinced of an activity’s value, and without this, they may not have any desire to participate in the activity (Lefcourt, 1982). Internals have a greater desire to question and obtain information from their environments, and they are superior at processing this information (Hassmen & Koivula, 1996; Lefcourt, 1982). On the other hand, the external may lack confidence and certainty during an activity, particularly a novel activity (Lefcourt, 1982). Because of this, externals may set meager goals, and may lack the perseverance that is necessary for many high-achievement activities (Lefcourt, 1982). The significance of the concept of locus of control to occupational therapy can be summarized in the following quote. “In other words, no matter what the experiences one has, if they are not perceived as the results of one’s own actions, they are not effective for altering the ways in which one sees things and consequently the way one functions.” (Lefcourt, 1982, p. 35)

Studies have correlated depression with low perceived control (Decker & Shultz, 1985; Natale, 1978); and elation with high perceived control (Natale, 1978). An elderly person with an external locus of control may perceive discomfort and distress to be

longer lived and difficult to manage, whereas elderly persons with an internal locus of control demonstrate positive coping skills including retaining social supports (Pilisuk, Montgomery, Parks, & Acredolo, 1993). An internal locus of control combined with a strong social support system increased the level of self-perceived health in older men who are experiencing symptoms of poor health (Pilisuk, Montgomery, Parks, & Acredolo, 1993). Older adult men with an external locus of control reported poorer health and actually experience more symptoms of poor health when compared to internals (Pilisuk, Montgomery, Parks, & Acredolo, 1993). Persons with an external locus of control tend to hold negative beliefs about their environments and tend to be less sensitive to changes in their environments (Lau, Cheung, & Chau, 1982). External locus of control has also been positively correlated with feelings of alienation and exploitation (Rotter, 1966). Externals can be persuaded with less difficulty than internals (Avtgis, 1998; Lefcourt, 1982). There is also literature that has examined the influence of locus of control on cooperation. When dyads of external children were assigned a task, they were found to be cooperative; whereas the dyads of internal children or mixed internal/external dyads both demonstrated competitive behavior (Cook & Chi, 1984). The fact that mixed internal/external dyads became competitive may support the belief that internals have greater social influence [and that externals are easier to persuade] because the trait of the internal became the characteristic of the group (Cook & Chi, 1984).

There have also been implications for locus of control in the workplace. Spector (1982) proposed that since internals find direction for action within themselves, internals are better suited for tasks that require initiative. Conversely, when the job task requires compliance such as the following of a supervisor or corporate policy, the external would

perform better due to his dependence on factors outside the self (Spector, 1982).

Performance incentives motivate internals to a greater degree than they motivate externals, so internals are more likely to put greater effort into the attainment of a reward (Kren, 1992). Internals prefer to participate in the decision making process while externals prefer directive and structured leadership (Kren, 1992).

Clearly some assumptions have been made about one's locus of control; usually with internality being regarded as the positive trait (Rotter, 1975). However, some authors insist that it is more logical to conclude that both internality and externality have their own positive and negative attributes than it is to assume that only positive attributes are associated with internality, and only negative attributes are associated with externality (Furnham & Steele, 1993). The trend in which internals tend to perform better on various measures may be due to their tendency not to disclose experiences of failure (Rotter, 1975), possibly due to the fact that an internal locus of control predisposes one to greater self-esteem damage during failure (Furnham & Steele, 1993).

Furthermore, the construct of locus of control has come under a great deal of scrutiny and criticism. Rotter (1966) has suggested that his construct of locus of control is unidimensional, meaning that one's locus of control is either internal or external in all life roles. However, Connell (1985) found that locus of control varies in accordance with various life domains such as cognitive, social, and physical. A 1978 study by Natale revealed that the induction of depression increases externality, and conversely that the induction of elation increases internality. This lends evidence to the belief that locus of control is a dynamic, ever changing, process rather than a static personality trait. This

may be especially true in children, as there is emerging evidence that a child's perception of control changes throughout development (Coster & Jaffe, 1991).

Certainly, an internal locus of control is not always the ideal personality trait, and it should not be assumed that it is always the goal of the occupational therapist to facilitate the person with an external locus of control to become more internal. Although some authors have eluded to both of the above mentioned ideas, Rotter warned against this twenty-five years ago:

"It may be better for people who are in obvious difficulties, who are trying to cope with failing abilities such as the aged and those who have become victims of addictions, to have a greater feeling that they can in fact, control what happens to them. But there must also be a limit on personal control. Many people already feel that they have more control than is warranted by reality, and that they may be subject in the future (or have already been subjected) to strong trauma when they discover that they cannot control such things as automobile accidents, corporate failures, diseases, etc." (Rotter, 1975, p.61).

Occupational therapists treat a large variety of clients. It is obvious and overstated that occupational therapists treat the individual needs of each client, so then it is logical that the need for control be one of those individual, personal variables.

It is important to bear in mind that Kielhofner's (1995) definition of personal causation differs from the way the construct was originally presented by DeCharms (1968). Kielhofner (1995) presents the construct as a personal knowledge base, whereas DeCharms presents the construct as a general theory of motivation or drive, similar to Kielhofner's (1995) definition of volition.

"Man's primary motivational propensity is to be effective in producing changes in his environment. Man strives to be a causal agent, to be the primary locus of causation for, or the origin of, his behavior; he strives for personal causation. This propensity has its roots in his earliest encounters with the environment, forces him to actively engage his environment thereby testing and deriving valid personal knowledge from it, and is the basis for specific motives. His nature commits him to this path, and his very life depends on it. Personal causation of this sort is not to

be taken as the motive for all behavior, however. It is an overarching or guiding principle upon which specific motives are built. The environment sets different problems (obtaining food, achieving success, gaining friendship, etc.) that may help to define specific motives for individual behavior patterns. The dimension that underlies all of these is the attempt to overcome the problem through personal causation – the desire to be the master of one's own fate." (DeCharms, 1968, pp. 269-270).

Kielhofner's (1995) definition of the construct may be more narrow and concrete while DeCharm's (1968) definition seems to be more holistic and abstract. It does seem that Rotter's (1966) construct of internal versus external control of reinforcement is reflected in DeCharms' (1968) construct of personal causation, but in no means is it the most prominent component. It is interesting that occupational therapists have been concerned with the part (locus of control) rather than the whole (personal causation). This may be because locus of control is easily measured, translated into several languages, and well-researched with good reliability and validity.

#### Problem and Research Questions

As stated earlier, personal causation is most commonly measured by locus of control instruments (Katz, Giladi, & Peretz, 1988). Henry & Coster (1997) have already implied that there is a problem with this, as they view locus of control as only one variable within the construct of personal causation as it is presented in the MOHO. This study attempted to answer three questions: Is there a significant relationship between locus of control and personal causation?; Is there a significant relationship between personal causation and occupational functioning?; Is there a significant relationship between locus of control and occupational functioning?

### Design

The study was a correlational design. Data was analyzed using a Spearman-rho correlation test to compare scores on locus of control, personal causation, and occupational functioning.

### Measurement Instruments

The Rotter (1966) Internal/External Control Scale, the oldest and most well researched measure of locus of control, was used to measure locus of control (Appendix C). "Rotter's (1966) scale remains the most widely known and still probably the most well-used despite being among the shortest scales and one of the few to use the forced-choice technique (frequently criticized by psychometricians)." (Furnham & Steele, 1993, p. 452).

"The Rotter scale has been translated, shortened, factor analyzed, modified, adapted and extensively criticized but is still the 'grandfather' (or perhaps the 'godfather') of all the locus of control measures. Hence, its concurrent, construct, and predictive validity are well known and, given the scale's generality and length, these are impressively high." (Furnham & Steele, 1993, p. 452).

The most common flaw identified in Rotter's conceptualization of locus of control is the belief of unidimensionality or domain-generalization, which opposes the findings that locus of control varies according to various life roles. (Connell, 1985; Henry & Coster, 1997). Rotter (1975) acknowledges that his measure of locus of control is not domain specific and should not be used in that manner. In this study, numerous life roles in various domains were assessed in a non-specific manner through use of the SAOF. Therefore, to be consistent with the purposes of this study, a general measure of locus of control was accurate and sufficient.

Both personal causation and occupational functioning were measured with the Self-Assessment of Occupational Functioning [SAOF] (Baron & Curtin, 1986) that was slightly modified by the researcher (Appendices D & E). In the unmodified SAOF, a statement concerning occupational functioning is given, such as "Knowing my abilities" and the respondent rates it as "strength", "adequate", or "needs improvement". In the present study, all statements from the SAOF were worded as strengths, such as "One of my strengths is knowing my abilities" and the participant was asked to rate his or her own personal agreement with that statement on a nine-point Likert scale from strongly disagree to strongly agree. While reliability and validity of this version were not calculated, reliability and validity of the standard SAOF are as follows. Regarding test-retest reliability, Henry, Baron, Mouradian, & Curtin (1999) found an ICC of .87 for the total score of the SAOF with lower coefficients for the four subscales; volition: .70, habituation: .74, performance: .74, and environment: .68. Internal consistency resulted in a Cronbach's alpha value of .88 for the total score with lower values for the four subscales; volition: .83, habituation: .70, performance: .66 (Henry et al., 1999). Using a Spearman-rho correlation test, they found concurrent validity to be moderate or low, depending on the subscale in comparison with the Self-Perception Profile (Henry et al., 1999). Relationships between the subscales of the modified SAOF were obtained by using a Spearman-rho correlation test and are presented in Table 1.

### Results

In the present study, internality was found to have a low positive correlation with both personal causation and occupational functioning. There was a high degree of correlation between all the items on the SAOF. Data are presented in Table 1. It should

be noted that the Rotter Internal/External Scale gives a score from 0-23 with 0 being most internal and 23 being most external, so the negative values shown in Table 1 represent an inverse relationship between externality and the variable of interest, and therefore a positive relationship between internality and the variable of interest.

### Discussion

Measures of locus of control are frequently and erroneously used in occupational therapy literature to measure personal causation. Locus of control does not equate to personal causation. Within the Model of Human Occupation, locus of control is defined as one's belief in who or what controls outcomes in life, and personal causation is defined as one's sense of his or her current and future abilities (Kielhofner, 1997; 1995). Locus of control is only one aspect of personal causation as it is defined in the Model of Human Occupation. This study has presented locus of control as a valuable construct within the framework of occupational therapy, but at the same time discredited its importance in the construct of personal causation. Henry and Coster (1997) have suggested that it is beliefs of both control and competence that form personal causation as defined by the MOHO. From the results of this study, that seems only partly accurate. Locus of control accounted for such a small variance in personal causation, that if personal causation consisted solely of competence and control, competence would be the overwhelmingly important variable, and control would be insignificant. It would then seem that while control and competence are both variables within the construct of personal causation, they may be just two of several.

Certainly, the development of a measure of personal causation is indicated by this study. Occupational therapists may be using measures of locus of control to assess

personal causation simply because measures of personal causation are not available. If occupational therapists were to devise a measure of personal causation, the researcher would direct them to the original work on the construct by DeCharms (1968). DeCharms' definition of personal causation as an overarching motivational theory may be more accurate and more holistic than the definition of personal causation that has been proposed by the Model of Human Occupation.

This raises another concern regarding the construct. Since Kielhofner's (1995) definition of volition is very similar to DeCharms' (1968) definition of personal causation, why not simply use personal causation in place of volition in the Model of Human Occupation? Occupational therapy has many of its roots in the social sciences, and continues to share strong similarities with the social sciences. One would question if the two constructs differ significantly enough to warrant separation at the sacrifice of concision and clarity. If a well-developed construct already existed within the social sciences, why would occupational therapists chose to reinvent one; and if a new construct was indicated, why use the term personal causation at all? Perhaps in an attempt to be holistic, occupational therapists have not demonstrated enough focus and consistency in the formulation of theory, and created a vocabulary of terms that is too expansive. The Model of Human Occupation may propose a theory of occupation that is without a doubt holistic, but perhaps not economical. The Model of Human Occupation may need to be refined in the areas of concision and clarity if it is to be suitable for efficient practice and effective research.

### Scope and Limitation of Study

The first and most obvious limitation of this study is its generalizability. All of the subjects were college students who had no disabilities, so the results of this study may not be generalized to the other populations, particularly persons with disabilities. Contrary to what the Model of Human Occupation proposes, Janelle (1992) found that there was no difference in locus of control between adolescents with disabilities and adolescents without disabilities. Even so, research with persons with disabilities is indicated, as occupational therapists may want to focus less on locus of control and more on personal causation.

Another limitation of this study is that the validity of one of the instruments used may have been compromised in two ways. First, the SAOF was modified by the researcher, so the validity of the instrument is not the same as that which was reported by Henry, Baron, Mouradian, & Curtin (1999). Another limitation that was created by the researcher was the use of the SAOF to measure personal causation. Although the first six questions of the SAOF are intended to be indicative of personal causation, it is not the purpose of the instrument to assess personal causation as an independent construct; rather occupational functioning as a whole.

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Table 1

Correlations Between Locus of Control, Personal Causation, and OccupationalFunctioning (n=30)

Subscale	1	2	3	4	5	6	7
1. L.O.C. <sup>1</sup>	--	-.26	-.29	-.22	-.27	-.28	-.14
2. P. C. <sup>2</sup>		--	.92**	.94**	.78**	.81**	.60**
3. O. F. <sup>3</sup>			--	.95**	.90**	.86**	.72**
4. Volition				--	.81**	.74**	.66**
5. Habituation					--	.72**	.52**
6. Performance						--	.78**
7. Environment							--

\*\*Correlation is significant at the .01 level (2-tailed)

<sup>1</sup>Locus of Control (negative values are indicative of an inverse relationship between externality and the variable of interest; therefore, all variables had a direct relationship with internality)

<sup>2</sup>Personal Causation (items 1-6 on the SAOF)

<sup>3</sup>Occupational Functioning (the total score on the SAOF)

## Appendix A – Participant Recruitment Statement

“This survey is part of the research that I am conducting as part of my master’s thesis in occupational therapy here at Ithaca College. This survey will ask you some questions about your beliefs and opinions about yourself. You must be at least 18 years old to participate in this survey. You should not put any identifying information on this survey, as this survey is completely anonymous and confidential. This survey will take you approximately 10-15 minutes to complete, but if you need extra time, I will be here for a total of 30 minutes. If you chose, you may refuse to answer any questions and withdraw from this survey at any time.”

Appendix B – Participant Consent Form

My name is Donald Shekailo. I can be contacted at the following e-mail address: djshekailo@aol.com. This survey is part of the research that I am conducting as part of my master's thesis in occupational therapy here at Ithaca College. This survey will ask you some questions about your beliefs and opinions about yourself. It will take approximately 10-15 minutes to complete, but if you need extra time, I will be here for a total of 30 minutes. **You must be at least 18 years old to participate in this survey.** **You should not put any identifying information on this survey, as this survey is completely anonymous.** If you chose, you may refuse to answer any questions and withdraw from this survey at any time. If you find any questions or issues in this survey to be disturbing, please call the Ithaca College Counseling Center at 274-3136 for assistance.

After completing the survey, please place it in the box marked "Occupational Therapy Survey" as you exit. The box is located in the back of the classroom.

Please tear off this cover sheet and keep it for your records. Thank you for participating in this survey. Your help is greatly appreciated.

## Appendix C- Rotter's (1966) Internal/External Scale

Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief: obviously there are no right or wrong answers. Please answer these items carefully but do not spend too much time on any one item. In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

1. a. Children get into trouble because their parents punish them too much.  
b. The trouble with children nowadays is that their parents are too easy with them.
2. a. Many of the unhappy things in people's lives are partly due to bad luck.  
b. People's misfortunes result from the mistakes they make.
3. a. One of the major reasons that we have wars is because people don't take enough interest in politics.  
b. There will always be wars, no matter how hard people try to prevent them.
4. a. In the long run people get the respect they deserve in this world.  
b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
5. a. The idea that teachers are unfair to students is nonsense.  
b. Most students don't realize the extent to which their grades are influenced by accidental happenings.
6. a. Without the right breaks one cannot be an effective leader.  
b. Capable people who fail to become leaders have not taken advantage of their opportunities.
7. a. No matter how hard you try some people just don't like you.  
b. People who can't get others to like them don't understand how to get along with others.
8. a. Heredity plays the major role in determining one's personality.  
b. It is one's experiences in life which determine what they're like.
9. a. I have often found that what is going to happen will happen.  
b. Trusting to fate has never turned out for me as well as making a decision to take a definite course of action.

10. a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.  
b. Many times exam questions tend to be so unrelated to course work that studying is really useless.
11. a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.  
b. Getting a good job depends mostly on being in the right place at the right time.
12. a. The average citizen can have an influence in government decisions.  
b. The world is run by the few people in power, and there is not much that the little guy can do about it.
13. a. When I make plans, I am almost certain that I can make them work.  
b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
14. a. There are certain people who are just no good.  
b. There is some good in everybody.
15. a. In my case getting what I want has little or nothing to do with luck.  
b. Many times we might just decide what to do by flipping a coin.
16. a. Who gets to be boss often depends on who was lucky enough to be in the right place first.  
b. Getting people to do the right thing depends on ability, luck has little or nothing to do with it.
17. a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.  
b. By taking an active part in social and political affairs the people can control world events.
18. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.  
b. There is really no such thing as "luck".
19. a. One should always be willing to admit mistakes.  
b. It is usually best to cover up one's mistakes.
20. a. It is hard to know whether or not a person really likes you.  
b. How many friends you have depends on how nice a person you are.
21. a. In the long run the bad things that happen to us are balanced by the good ones.  
b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22. a. With enough effort we can wipe out political corruption.  
b. It is difficult for people to have much control over the things politicians do in office.
23. a. Sometimes I can't understand how teachers arrive at the grades they give.  
b. There is a direct connection between how hard I study and the grades I get.
24. a. A good leader expects people to decide for themselves what they should do.  
b. A good leader makes it clear to everybody what their jobs are.
25. a. Many times I feel that I have little influence over the things that happen to me.  
b. It is impossible for me to believe that chance or luck plays an important role in my life.
26. a. People are lonely because they don't try to be friendly.  
b. There's not much use in trying too please people, if they like you, they like you.
27. a. There is too much emphasis on athletics in high school.  
b. Team sports are an excellent way to build character.
28. a. What happens to me is my own doing.  
b. Sometimes I feel that I don't have enough control over the direction my life is taking.
29. a. Most of the time I can't understand why politicians behave the way they do.  
b. In the long run, people are responsible for bad government on a national as well as on a local level.

Appendix D- Modified Version of the Self-Assessment of Occupational Functioning  
Please indicate agreement with the following statements by circling the number that corresponds with your degree of agreement. 1 implies strong disagreement, 5 implies neutrality, and 9 implies strong agreement (any number between and including 1 to 9 may be selected).

30. One of my strengths is being aware of my abilities.

strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree

31. One of my strengths is believing that my abilities will work for me.

strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree

32. One of strengths is expecting success from my efforts rather than failure.

strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree

33. One of my strengths is believing I can make things happen at work, in school, during recreation and/or at home.

strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree

34. One of my strengths is staying with a frustrating activity.

strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree

35. One of my strengths is making my own decisions

strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree

36. One of my strengths having a sense of my life in the past, present, and future.

strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree

37. One of my strengths is doing activities that give me a sense of purpose.

strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree

38. One of my strengths is having future goals.

strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree

39. One of my strengths is having realistic expectations of myself.

strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree

40. One of my strengths is identifying my interests.

strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree

41. One of my strengths is having a variety of interests.

strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree

42. One of my strengths is participating in my interests.

strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree

43. One of my strengths is being involved in roles such as student, worker, home maintainer, hobbyist, friend, family member, and/or volunteer.  
strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree
44. One of my strengths is meeting the expectations of my roles.  
strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree
45. One of my strengths is having a healthy balance of roles in my life.  
strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree
46. One of my strengths is organizing my time.  
strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree
47. One of my strengths is having habits that support my success in my roles.  
strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree
48. One of my strengths is being flexible about changes in my routine.  
strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree
49. One of my strengths is expressing myself to others.  
strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree
50. One of my strengths is socializing with another person or in a group.  
strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree
51. One of my strengths is planning before acting.  
strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree
52. One of my strengths is concentrating and completing my work.  
strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree
53. One of my strengths is identifying problems and their solutions.  
strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree
54. One of my strengths is performing daily living skills (e.g. grooming, cooking, laundry, money management).  
strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree
55. One of my strengths is being physically able to do what needs to be done.  
strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree
56. One of my strengths is being in environments that support my well-being (e.g. work, school, recreation or home).  
strongly disagree 1----2----3----4----5----6----7----8----9 strongly agree

Appendix E- Key to the Modified Version of the Self-Assessment of Occupational  
Functioning

Items 30-35 = Personal Causation

Items 30-42 = Volition

Items 43-48 = Habituation

Items 49-55 = Performance

Item 56 = Environment

Items 30-56 (entire measure) = Occupational Functioning