

# The Relative Effects of Actual and Experienced Autonomy on Motivation in Nursing Home Residents

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## RÉSUMÉ

Récemment, la théorie de l'autodétermination (Deci & Ryan, 1985a) a été utilisée pour expliquer la motivation dans le comportement quotidien des personnes âgées (Vallerand & O'Connor, 1989). Selon cette théorie un des principaux facteurs déterminants de la motivation est le degré d'autodétermination offert par l'environnement. Il peut donc être proposé que lorsqu'il y a des occasions propices à l'autonomie ceci peut affecter les perceptions d'autodétermination de la personne qui, subséquemment, peut influencer sur la motivation. On a vérifié cette hypothèse auprès de 129 personnes résidant dans 11 centres d'accueil. Dans les deux cas on a constaté que les occasions propices à l'autodétermination et les perceptions d'autodétermination étaient toutes deux reliées aux styles de motivation. De plus, l'influence de l'environnement sur la motivation était médiatisée par les perceptions d'autodétermination. Les résultats obtenus appuient cette relation causale difficile à prouver jusqu'ici.

## ABSTRACT

Self-determination theory (Deci & Ryan, 1985a) has recently been applied to the motivation behind daily activities in old age (Vallerand & O'Connor, 1989). According to this theory, a primary determinant of motivation is the degree of self-determination in the living environment: actual opportunities for self-determination are assumed to affect the experience of self-determination, which in turn affects motivation. This prediction was tested among 129 residents from 11 nursing homes. Both actual opportunities for autonomy and experienced autonomy were associated with motivational styles. Furthermore, the effects of the objective

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\* This research was supported by grants from the Conseil Québécois de la Recherche Sociale and from the Social Sciences and Humanities Research Council of Canada.

Key Words: Motivation, Self-determination, Environment, Perceptions, Nursing Homes.

Mots clés: Motivation, affirmation de soi, environnement, perception, centre d'accueil.

Manuscript received January 1, 1993; manuscrit reçu le 1 janvier 1993.

Manuscript accepted November 12, 1993; manuscrit accepté le 12 novembre 1993.

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environment on motivation were mediated by perceptions of the environment. The results provide suggestive support for a causal sequence that has proven difficult to establish in previous research.

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Why do people engage in daily activities in old age? Where does their motivation come from? Self-determination theory (Deci & Ryan, 1985a, 1991) has recently been used to help answer these questions about the regulation of behaviour in later life (Vallerand & O'Connor, 1989). The theory distinguishes between different forms of motivation or reasons for engaging in behaviours, and specifies the factors that supposedly influence motivation. In the present study we measured motivational styles in older adults and examined whether actual and experienced autonomy are associated with motivation in the ways predicted by the theory. We begin by describing the theory and relevant research.

### **Motivation in Later Life: Self-Determination Theory**

Self-determination theory emerged from research on young people and portrays individuals as active organisms striving for effective interactions with the environment in a context of autonomy (Deci & Ryan, 1985a, 1991). Individuals are said to have a need to feel competent, self-initiating and self-regulating in their daily activities. The satisfaction of this need enhances motivation, whereas the thwarting of this need impairs motivation.

Deci and Ryan (1985a, 1991) proposed the existence of at least four types of motivation that vary along a continuum of self-determination. From high to low self-determination, these forms of motivation are: intrinsic, self-determined extrinsic, nonself-determined extrinsic, and amotivation. The theory also specifies the relationships between these different forms of motivation as well as their causes and consequences.

Intrinsically motivated behaviours are engaged in for the pleasure and satisfaction derived from their performance. They are voluntarily performed in the absence of material rewards or constraints (e.g., exercising for the inherent pleasure derived from doing so).

Extrinsically motivated behaviours are not performed for their inherent experiential aspects but to receive or avoid something once the activity is terminated. It was originally thought that extrinsic motivation referred to nonself-determined behaviour, i.e. to behaviour that is prompted by external contingencies. However, it has recently been discovered that there are different types of extrinsic motivation, some of which may be self-determined (Deci & Ryan, 1985a, 1987). In this paper we distinguish between two broad types of extrinsic motivation: self-determined and nonself-determined.

Nonself-determined extrinsic motivation occurs when behaviour is externally regulated (usually through rewards or constraints). For example, elderly persons may exercise because they feel urged to do so by others. In

this case, an activity that can or should be fun is performed in order to avoid negative consequences (e.g., criticism from others). The motivation is extrinsic because the reason for participation lies outside the activity itself. Furthermore, the behaviour is not chosen or self-determined.

Nonsel-determined extrinsic motivation may also be fuelled by a desire for rewards. For example, someone might agree to exercise "because the doctor told me that it would be good for me". In this case the motivation is still extrinsic and nonself-determined, but the instigating factor is the desired reward (e.g., praise from the doctor). Regardless of whether the goal of behaviour is to obtain rewards or to avoid sanctions, the individual experiences an obligation to behave in a specific way, and feels controlled by the reward or by the constraint (Deci & Ryan, 1985a).

In contrast, self-determined extrinsic motivation occurs when a behaviour is valued by the individual and is perceived as being chosen by oneself. An example is someone who exercises "because I feel that it is a good way to stay healthy and happy". The motivation is extrinsic because the activity is not performed for itself but as a means to an end. However, the behaviour is nevertheless self-determined: the individual has *decided* that exercising is beneficial. The person experiences a sense of direction and purpose, instead of obligation and pressure, in performing the behaviour.

Finally, individuals are said to be amotivated when they perceive a lack of contingency between their behaviour and outcomes. There is an experience of incompetence and lack of control. Amotivated behaviours are neither intrinsically nor extrinsically motivated: they are nonmotivated and participation will eventually cease. For example, an elderly person might say, "I really don't know why I exercise, I don't see what it does for me". Amotivated behaviours are the least self-determined because there is no sense of purpose, and no expectation of reward or of the possibility of changing the course of events.

### **Self-Determination, Perceived Locus of Causality, and "Control"**

Self-determination is the experience that one's actions emanate from oneself, and self-determined individuals are said to have an internal 'perceived locus of causality' (Deci & Ryan, 1985a, 1985b, 1987, 1991). These concepts have obvious counterparts in the extensive research on locus of control (see Baltes & Baltes, 1986; Fry, 1989; Lefcourt, 1982; and Shupe, 1985 for reviews). But according to Deci and Ryan (1985b).

The term locus of causality is not the same as "locus of control" as explicated by Rotter (1966). The term locus of control refers to whether people believe that outcomes are controllable, in other words whether outcomes are believed to be contingent upon behaviour. Locus of causality, on the other hand, refers to the perceived source of initiation and regulation of behaviour. Locus of control is concerned with what controls a person's outcomes; locus of causality is concerned

with why a person behaves as he or she does (deCharms, 1981; Ryan & Grolnick, 1984) (pp. 113-114).

Besides locus of control, other related constructs in the literature include learned helplessness and perceived control. However, these terms also usually refer to the perceived contingency between one's behaviour and the outcomes one receives, whereas perceived locus of causality and self-determination, derived from deCharms's (1968) concept of personal causation, refer primarily to the experience of choice and freedom in initiating one's behaviour. Control does not ensure self-determination or an internal perceived locus of causality. Individuals may perceive control over outcomes but they will not feel self-determined if they are compelled by interpersonal or intraindividual pressures, as in the case of nonself-determined extrinsic motivation. For example, some individuals may perceive control over their exercise routines and may be "internals" with regards to their beliefs about the reinforcements of exercising, but they will not experience self-determination or an internal perceived locus of causality if they feel pressured to exercise by themselves or others. In support of this distinction is the finding that "traditional beliefs of internal-external control on a Rotter type scale are independent of beliefs in one's self-control of impulses" (Reid & Stirling, 1989, p. 231).

Although the term "choice" is sometimes used in definitions of perceived control (e.g., Perlmutter & Monty, 1979), the focus has usually been on the act of distinguishing between available options provided by an experimenter in laboratory research, and not to the experience of freedom in regulating one's behaviour. Other researchers sometimes use "choice and control" in the same phrase (e.g., Langer, 1983; Timko & Moos, 1989), and although few distinctions have been provided, the term choice in these contexts seems to have elements of self-determination. In any case, readers are referred to Deci and Ryan (1985a, 1985b, 1987, 1991), Rodin (1990), and Reid and Stirling (1989) for more extensive comparisons of these constructs. In making these distinctions we are not suggesting that the concept of self-determination is superior, or that other concepts should be abandoned. Instead, we are merely alerting readers to subtle but important differences between various constructs, and to the fact that the focus of our own research is on self-determination.

### **Self-Determination as a Source of Motivation**

One of the primary determinants of motivation is the degree of self-determination in the living environment. Factors that enhance the experiences of freedom and choice are assumed to enhance motivation. In the words of Deci and Ryan (1985a),

External events relevant to the initiation or regulation of behaviour will affect a person's intrinsic motivation to the extent that they influence the perceived locus

of causality for that behaviour. Events that promote a more external perceived locus of causality will undermine intrinsic motivation, whereas those that promote a more internal perceived locus of causality will enhance intrinsic motivation (p. 62).

Events and contexts which enhance experienced self-determination provide choice, minimize pressure to perform in specified ways, and encourage initiation (Deci & Ryan, 1991, p. 245). Actual opportunities for self-determination provided by one's environment are assumed to affect the experience of self-determination, which in turn affects motivation.

The purpose of the present study was to test this three-variable mediated model. The hypothesized path from objective reality to experienced reality to motivation cannot be taken for granted. Research on learned helplessness and perceived control, which assumes a similar causal sequence, has often failed to find support for the expected mediated relationship. Actual loss of control or actual noncontingency produce various deficits, but researchers have failed to find evidence that perceptions of control or perceptions of noncontingency mediate the effects (Alloy, 1982; Baltes & Skinner, 1983; Kuhl, 1981, 1986; Oakes & Curtis, 1982; Perlmutter & Chan, 1983; Revesman & Perlmutter, 1981; Tennen, Gillen, & Drum, 1982; Tennen, Drum, Gillen, & Stanton, 1982). Perceptions of control are undeniably important in their own right (Baltes & Baltes, 1986; Fry, 1989; Lefcourt, 1982; Shupe, 1985). But the problem has been in establishing that objective reality exerts its effects on outcomes via its effects on perceptions and experiences. However, Alloy (1982) criticized previous experiments for having methodological and measurement flaws, and claimed that the mediated model has not been seriously compromised and merely awaits further testing. With regards to self-determination theory, some studies have examined actual or experienced autonomy in relation to motivation but no study to date has tested or provided support for the mediated relationship.

Given the importance of the causal sequence to self-determination theory and the difficulty in substantiating this relationship in related research on perceived control, tests of the mediated model seem necessary. In this study the model was tested by measuring the degree of self-determination in the environment, experienced autonomy, and motivational styles among nursing home residents. The study of self-determination in an important everyday living environment may provide a more accurate test of the mediated model than previous studies of subjects in temporary, artificial laboratory settings. The present study was cross-sectional and causal relationships between the variables cannot be inferred with certainty. However, supportive findings would suggest that a causal relationship may exist and would provide grounds for the more elaborate longitudinal research that would be required to confirm the causal sequence.

## Method

### *Subjects and Procedure*

A list of the intermediate care nursing homes in the Montreal area was obtained from the provincial government, and 11 homes were randomly selected. Inquiries about conducting research were made to the nursing home administrators and three refused, and so three other homes were randomly selected from the list.

The head nurse in each home went through the list of residents and crossed out the names of individuals who did not have the cognitive skills to answer our questions, or whose physical condition made them unable to participate. The acceptance rate among the remaining, randomly chosen residents who were asked to participate was approximately 80 per cent. There were 111 females and 18 males, whose ages ranged from 65 to 96 years, with a mean age of 80.5 years. Participants had been residents of the homes for an average of 3.8 years. Ninety-two were widowed, 18 were married, 14 were single, and five were separated or divorced. Residents were first informed by the staff that they might be contacted to participate in a study, and a short time later those residents who agreed to participate were administered the measures interview-style by a trained research assistant.

### *Measures*

#### Elderly Motivation Scales (EMS)

The measure of motivational styles (Vallerand & O'Connor, 1989, 1991) consists of 18 questions that ask elderly respondents why they engage in various daily activities. There are three questions for each of six life domains: health, religion, biological needs, interpersonal relations, current events, and leisure activities (sample item: "Why do you go to church?"). For each question subjects make four ratings corresponding to the four forms of motivation: (1) "I don't know, I don't see what it does for me" (Amotivation); (2) "Because I am supposed to do it" (Nonself-Determined Extrinsic Motivation); (3) "I choose to do it for my own good" (Self-Determined Extrinsic Motivation); and (4) "For the pleasure of doing it" (Intrinsic Motivation). This response format is analogous to that used in the Attributional Style Questionnaire (Seligman, Abramson, Semmel, & von Baeyer, 1979). The responses are given on 7-point Likert scales ranging from "Strongly Disagree" to "Strongly Agree". Missing values were entered when subjects could not answer a question, and mean scores were computed based on the questions that were answered. In the present study only 2.8 per cent of the items (or 261 out of the total 9288 responses) received missing values. In sum, the measure of motivational styles consists of 18 questions which subjects answer by rating the truthfulness of four motivational statements, for a total of 72 ratings. The measure has undergone extensive testing and shows strong psychometric properties (see Vallerand & O'Connor, 1989, 1991).

### Experienced Autonomy

The measure of experienced autonomy (or experienced self-determination) consisted of four items derived from past research (Reid, Haas, & Hawkins, 1977; Wolk & Telleen, 1976): (1) "How often can you yourself decide on what your everyday behaviours are going to be?" (2) "Residents in this home can solve problems by taking the initiative on their own;" (3) "Residents in this home have free access to the rooms and different facilities of the center;" and (4) "The people who work in this home give me the freedom to do what I choose and do not force me to do things." Subjects responded to the items on 7-point Likert scales.

### Ratings of the Nursing Homes

A trained research assistant conducted separate interviews (lasting 20-30 minutes) with the head nurse and administrator in each nursing home regarding the rules and treatment of residents. An elaborate description of the rules in each nursing home was then written, focusing on how much choice residents had regarding their daily activities, on the extent to which the nursing home staff took responsibility for residents' personal care, and on the degree to which the staff encouraged or discouraged personal initiative. Three psychologists who are highly familiar with self-determination theory and research independently read the descriptions and rated the degree of self-determination provided by each home on these dimensions on a nine-point scale. The raters had no information about the motivation or health scores of the residents. The intraclass correlations were high (.89 to .99), and mean self-determination scores for each home were computed for the judgments of each rater. The intraclass correlation for the three sets of ratings was  $r = .96$ , and a mean Self-Determination in the Environment score for each home was then computed. The average Self-Determination in the Environment score for the homes was 5.18, with a standard deviation of 1.09 and a range from 3.30 to 6.93.

### Physical Health

In each nursing home the head nurse rated the general health of participants, reported how often they had been bedridden in the past month, how many times they had had to see a physician, how many different kinds of pills they were taking, and how strong the pills were. A Physical Health score was computed for each subject by standardizing the scores on each of the items and computing the mean.

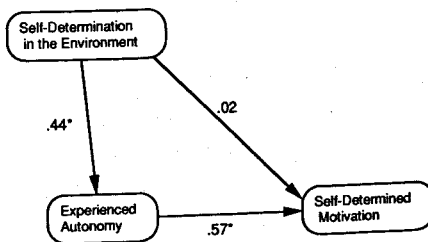
### Results

The means, standard deviations, and internal consistencies of the measures are reported in Table 1. Motivational styles were assessed by four indicators and so a composite index was constructed to simplify the reporting of the results. The four motivation scales were assigned weights according to their relative position on the self-determination continuum, and then summated

**Table 1**  
Means, standard deviations and internal consistencies

	Mean	Standard Deviation	Cronbach's Alpha
Amotivation	1.40	0.7	.78
Nonself-determined extrinsic motivation	2.24	1.1	.72
Self-determined extrinsic motivation	5.34	1.1	.89
Intrinsic motivation	4.64	1.0	.87
Experienced autonomy	6.22	1.04	.71
Physical health	-.01	.63	.78

Note: The means are on a one-to-seven scale, except for Physical Health, which is a composite of standardized scores.



\* indicates  $p < .001$

**Figure 1** Regression coefficients (standardized beta weights) for the path analysis

to form a Self-Determined Motivation index (see Blais, Sabourin, Boucher & Vallerand, 1990). Specifically, Amotivation and Nonself-Determined Extrinsic Motivation were assigned weights of -2 and -1, respectively, because they are less self-determined forms of motivation; and Self-Determined Extrinsic Motivation and Intrinsic Motivation were assigned weights of +1 and +2, respectively, because they are more self-determined forms of motivation. The internal consistency of the Self-Determined Motivation index was .76.

The zero-order correlation between Self-Determination in the Environment and Experienced Autonomy was .44,  $p < .0001$ ; the correlation between Experienced Autonomy and Self-Determined Motivation was .58,  $p < .0001$ ; and the correlation between Self-Determination in the Environment and Self-Determined Motivation was .27,  $p = .003$ .

Hierarchical regression was then used to determine whether the association between Self-Determination in the Environment and Self-Determined Motivation was mediated by Experienced Autonomy (see Baron & Kenny, 1986 for details on this statistical procedure). Self-Determined Motivation was first regressed on Experienced Autonomy, and then on Self-Determination in the Environment. A significant effect for Self-Determination in the



Environment with Experienced Autonomy in the equation would indicate an effect of objective reality on motivation that is not mediated by perceptions and experiences. The results are reported in Figure 1. The direct path from Self-Determination in the Environment to Self-Determined Motivation (.02) was not significant, whereas the paths via Experienced Autonomy were both significant (.44 and .57). The magnitude of the indirect effect, which is the cross-product of the indirect paths, was  $.44 * .57 = .25$ ,  $p < .05$ .

The correlations between Physical Health and the other variables were not significant (.04 for Self-Determination in the Environment; .07 for Experienced Autonomy; and .07 for Self-Determined Motivation). The findings did not change when Physical Health was partialled out in the above analyses.

## Discussion

The findings provide support for a central assumption of self-determination theory: actual opportunities for autonomy are associated with experienced autonomy, which in turn is associated with more self-determined forms of motivation. Furthermore, the effects of the objective environment on motivation were mediated by perceptions of the environment. The mediated effect was not strong (they rarely are), but it was significant. This suggests that the objective environment may influence motivation through its effect on perceptions, and that the experiences of freedom and self-determination are relatively more important than objective reality. Although many theories emphasize the importance of subjective reality over objective reality (see Carp, 1987), the present study was one of the few that has actually compared the two variables empirically in natural settings and supportive findings emerged.

The results provide indirect and suggestive support for a causal sequence that has never been tested in research on self-determination theory, and which has proven difficult to establish in research on learned helplessness and perceived control. Previous studies of the mediated relationship have almost all been on college students in artificial and temporary laboratory settings. Perhaps the relationship is more clearly apparent in natural settings that are more enduring and important to everyday life. It has also been suggested that previous studies did not properly test the mediated model (Alloy, 1982).

The present study was limited in that only nursing home residents were studied and most were women. The measure of Experienced Autonomy displayed an adequate but not impressive degree of internal consistency, and a more comprehensive and reliable measure should be used in further research. Our assessment of the opportunities for self-determination available in the nursing homes was relatively global and general, and it is possible that opportunities for self-determination vary within each nursing home. The study was also correlational: a mediated relationship has been estab-

lished, but future studies will have to confirm the causal direction of the links. Despite these limitations, there seem to be reasonable grounds for believing that the experience of autonomy is important to motivation in old age, and that one's objective living conditions contribute to this experience.

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