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## Locus of control and self-directed learning as predictors of well-being in the elderly

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**Locus of Control and Self-directed Learning as Predictors of  
Well-being in the Elderly**

**Deborah Gardner  
Edith Cowan University**

**A Thesis Submitted in Partial Fulfilment of the  
Requirements for the Award of Bachelor of Arts (Psychology) Honours  
Faculty of Health and Human Sciences, Edith Cowan University**

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## USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

### Abstract

Elderly people who remain mentally and physically active are more likely to be happy than those who do not (George, 1980; Toseland & Sykes, 1977). Demographic factors have usually accounted for only a small amount of the variance in well-being (Diener, 1984). Internal control, personal growth and direction in life might have more to do with well-being than demographic or personality factors (Ryff, 1995). This study examined the theoretical relationship between locus of control and self-directed learning readiness in the elderly and the predictability of self reported well-being from an internal locus of control and a self-directed learning measure (controlling for physical activity levels, satisfaction with financial situation, and prior education). Participants were 117 people over the age of 60 years. They were drawn from retirement villages, hostels, clubs and University of the Third Age campuses in Queensland, New South Wales, South Australia and Western Australia. Correlation coefficients indicated weak, positive, significant correlations between all the measures of locus of control and the measure of self-directed learning readiness. A factor analysis found two different facets of well-being: the sources of each being two different well-being scales. Hierarchical multiple regression analyses determined that self-directed learning readiness was a better predictor of both these facets of well-being than internal locus of control. Studies to determine cause and effect were recommended. The promotion of self-directed learning projects might be a useful strategy for health professionals, adult educators and others to use in assisting elderly people to develop internal control beliefs and maintain their sense of well-being while adapting to the many changes occurring in their lives. The development of skills and values associated with

self-directed learning for children might also be a goal of child educators so that life-long learning is a viable option.

### Declaration

I certify that this thesis does not incorporate, without acknowledgment, any material previously submitted for a degree or diploma in any institution of higher education and that, to the best of my knowledge and belief, it does not contain any material previously published or written by another person except where due reference is made in the text.

Signature: \_\_\_\_\_

Date: 3/3/98

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## Locus of Control and Self-directed Learning as Predictors of Well-being in the Elderly

Although elderly people often experience some decline in their physical health and functioning, interpersonal relationships and social roles, and responsibilities, they frequently score highly on measures of well-being (Heidrich & Ryff, 1993; Diener, 1984; Myers & Diener, 1995). A fascination with this apparent paradox has driven much of the research that has focussed on the maintenance of well-being in the elderly (Heidrich & Ryff, 1993; Baltes & Baltes, 1990). To possess a sense of well-being is a common goal in western society but "well-being" is a difficult construct to define. Diener (1984), for example, defines subjective well-being as "...an ongoing state of psychological wellness" (p. 392). Definitions such as this, however, beg the question, "what is psychological wellness?" Hence, there is a plethora of published research reports examining dimensions of well-being and factors associated with well-being.

Much of the difficulty in defining well-being, or psychological wellness, stems from a lack of agreement in the literature about whether a sense of well-being is the result of within-person factors or the result of an interaction between person and situation factors. Bradburn (1969), for example, believes that situation factors play a major role in determining a person's well-being. He suggests that psychological well-being is dependent upon the amount of positive and negative affect the person has experienced in response to external events. The more positive affect and the less negative affect experienced, the greater will be the person's psychological well-being.

Gray (1981) agrees with Bradburn (1969), but suggests that the amount of positive and negative affect a person experiences is determined by specific

personality traits. According to Gray, "...extroverts are more sensitive to signals of reward, and less sensitive to signals of non-reward or punishment", while neurotic introverts are more sensitive to signals of non-reward and punishment (p.1300). Thus, extroverts experience more positive affect, which in turn leads to a greater sense of well-being.

Heady and Wearing (1989) agree that stable personality traits predispose people to experience more or fewer positive or negative life events and that the frequency of these events is related to subjective well-being. However, they also found from their longitudinal study that life events influence subjective well-being beyond the effects of personality. Over time, participants' subjective well-being scores changed, suggesting that well-being is not stable, but influenced by life events. This has important implications. As Veehoven (1994) pointed out, a predisposition towards or against well-being does not mean that environmental changes cannot improve the happiness of people.

Despite difficulties in defining well-being, it is generally accepted in the literature that healthy older people who remain mentally and physically active are more likely to be happy than those who do not (George, 1980; Toseland & Sykes, 1977). The literature has also established that a person's perceived happiness with their financial status, as well as their prior education, is linked to their well-being (Campbell, Converse & Rodgers, 1976). The exploration of demographic and personality factors which account for well-being, however, has been relatively unproductive because so many factors each account for so little of the variance in well-being (Diener, 1984). Diener suggested that exploration focussing on abstract concepts that are associated with theory (such as goals) might find stronger

relationships than have been found with specific variables. Some recent research has explored this avenue.

Ryff and Keyes (1995) point out that models of well-being presented in the literature are data driven (not grounded in theory) and might be overly reliant on the notions of happiness and contentment. The term “happiness” connotes the positive emotional outcome of a person’s evaluation of his/her life affect (Veenhoven, 1990). “Contentment”, according to Veenhoven, is the result of a positive cognitive comparison between a person’s desired situation and his/her actual situation. Well-being, on the other hand, is not the end product of an affective or cognitive evaluation of a person’s life. It is a subjective, but ongoing, state that might have more to do with continued striving towards a future goal, or goals, than it has to do with an evaluation based on previous events or attainments. According to Fisher (1995), a “sense of future is an important feature of successful aging.... successful agers continue to grow and learn as they use past experience to cope with the present and set goals for future development”(p. 240). Struggling to achieve goals might also be more satisfying than is the actual attainment of the goals (Scitovsky, 1976).

Ryff and Keyes (1995) propose a model of well-being based on the convergence of multiple theoretical frameworks. This model considers “...Erikson’s (1959) psychosocial stages, Buhler’s (1935) basic life tendencies... Maslow’s (1968) conception of self-actualization, Allport’s (1961) formulation of maturity, Rogers’ (1961) depiction of the fully functioning person and Jung’s (1933) account of individuation” (p. 720). Ryff and Keyes suggest that well-being for young, middle-aged and elderly adults might have little to do with short-term happiness. It might have more to do with a person’s sense of purpose in life, their personal relationships, their sense of being in charge of their lives, whether they

believe they are realizing their potential and their sense of self-determination and autonomy. Furthermore, in support of Scitovsky (1976) they contest that factors associated with positive functioning require effort and discipline. Both of these might not be compatible with short-term happiness.

Thus, although both happiness and contentment have been found to be associated with well-being, neither might be a necessary requirement for psychological well-being. Indeed, some determinants of well-being might be at odds with immediate happiness and contentment (Ryff & Keyes, 1995). The possession of goals, and elderly people's belief in their continuing ability to achieve those goals, might be the more important determinants of their well-being. The view of well-being that has guided this research is that a person's degree of psychological well-being depends both upon his/her continuing evaluation of his/her past positive and negative affect and likelihood of attaining future desired goals. The possession of an internal locus of control is commonly reported as a key facilitator in the attainment of people's goals (Veehoven, 1994; Lu & Argyle, 1991). It has also been linked to well-being in many studies.

#### Internal Locus of Control

The concept of control is particularly important in an aging society because control is thought to be a major determinant of the way a person copes with the significant changes that occur in later life (Smits, Deeg & Bosscher, 1995; Schulz & Heckhausen, 1996). According to Schulz and Heckhausen's life-span theory of successful development, successful aging depends on a person's ability to "engage and impact" their environment. Furthermore, they suggest that control strategies provide mechanisms for dealing with the declines that are an inevitable part of development without undermining the person's previous attainments. Perceived

control of goal attainment is part of the control-related process that aids in enhancing the value of chosen goals, while devaluing the alternatives (Schulz & Heckhausen, 1996). Locus of control, a related concept, refers to the beliefs a person holds about whether goal attainment (or any outcome) is contingent upon their behaviour or some other external factor such as other people or chance (Vallerand, O'Connor & Hamel, 1995). In other words, locus of control refers to one's beliefs about his/her ability to control his/her own outcomes. Internal locus of control refers to the belief that one does have the ability to control his/her own outcomes.

Several studies have found locus of control to be related to well-being in the elderly and thus support Schulz and Heckhausen's (1996) theory (Baker, 1977; Brandt, 1980; Reid & Ziegler, 1980; Morganti, Nehrke, Hulicka & Cataldo, 1988; Reich & Zautra, 1990).

Baker (1977) found a positive relationship between satisfaction with life events and locus of control for retired people and Brandt (1980) found significant positive correlations between locus of control and morale, and life-satisfaction in institutionalized elderly people. Reid and Zeigler (1980) found that elderly people who feel more in control of everyday events tend to be better adjusted psychologically. Morganti et al. (1988) examined life-span differences in life satisfaction, self-concept and locus of control. They found that adolescents and young adults scored lower on self-concept and life satisfaction measures than the older age groups and they tended to be externally controlled. The middle-aged and elderly groups scored higher on the self-concept and life satisfaction measures and tended to be internally controlled. The results of these locus of control studies must be viewed with caution, however, because the validity of the Rotter I-E Scale, upon



which they base their results, ' have been found to be lacking in discriminant validity (Levenson, 1974; Reid & Ware, 1973).

Nevertheless, given the general importance suggested by the literature that locus of control plays in the well-being of the elderly, it is important to understand whether internal locus of control is a stable personality trait or whether it is developed through learning. Although locus of control is referred to as a personality trait (Diener, 1984; Lachman, Steinberg & Totter, 1987), Reich and Zautra (1990) found that control enhancing intervention improved the internal control beliefs of those who were already high in control. The effects were small for those who appeared to be most in need of control enhancement. Nevertheless, the longitudinal study suggests that control can be developed. Perhaps the kind of intervention Reich and Zautra used (direct discussion about control techniques) was more appropriate for those already high in control.

Some theories also suggest that internal locus of control can be developed.

#### The Impact of Learning on Control Enhancement

Several theories suggest links among learning, control, and well-being or life satisfaction. In their life-span theory of successful development, Schulz and Heckhausen (1996) imply that learning could improve control when they suggest that the more skills a person possesses, the greater is their control potential.

According to Schulz and Heckhausen (1996) successful aging is dependent first upon longevity and physical functioning, second upon cognitive, intellectual and social relation skills, and third, upon one's ability or performance within the first two domains. They believe that the control potential of an individual across the entire life-span is supported by the possession of skills and abilities that generalize

to various contexts. Very broad abilities within each domain are thought to maximize control potential and, thus, successful aging and well-being.

A similar model has been proposed by McClusky's theory of margin (cited in Hiemstra, 1981). McClusky's theory, which is commonly cited in the educational gerontology literature, states that elderly people's sense of well-being and autonomy can be adversely affected by the changes that occur naturally in later life. These changes are referred to as losses and include, for example, decline in health, death of a spouse and changes in social roles and responsibilities. The total losses people feel create an increase in their individual load. An elderly person's desired state of autonomy is represented by a margin of individual power over individual load. McClusky believes that learning enables the elderly person to increase or maintain their margin of power and thereby maintain a sense of well-being and autonomy. Although direction of cause cannot be established on the basis of theories developed from biographical studies, McClusky's theory implies that learning causes increases in control, which, in turn, causes increased well-being.

#### Self-determination Theory of Motivation

Ryan and Deci's self-determination theory of motivation which is based on the results of correlational studies implies that provision of choice (autonomy and control) increases motivation for learning and other behaviour and then, in turn, well-being. Deci and Ryan (1985; 1987) proposed a self-determination theory that describes four types of motivation. These are: intrinsic, self-determined extrinsic, non-self-determined extrinsic, and amotivation. Each type of motivation exists on a continuum that ranges from low to high self-determination. Intrinsically motivated behaviours are those behaviours that are likely to be repeated because they give enjoyment or satisfaction and often lead the individual to feelings of competence or

self-determination. For example, learning for the sole purpose of enjoyment in doing so would be intrinsically motivated behaviour.

Extrinsically motivated behaviour, on the other hand, is not performed because the behaviour itself is enjoyable. It is performed to receive a reward for doing so or to avoid a punishment when the behaviour is completed. There are two types of extrinsically motivated behaviour according to Deci and Ryan (1985): behaviour that is non-self-determined and behaviour that is self-determined. Non-self-determined extrinsically motivated behaviour is regulated externally through perceived reward or punishment and the person feels obligated by others to engage in the behaviour. Someone else has decided that the behaviour will benefit him/her. The person engages in the behaviour to avoid, for example, criticism, or to receive an offered reward. Self-determined extrinsically motivated behaviour, although still externally regulated (the behaviour itself is not performed for its own sake), is engaged in because the person has decided it will benefit them in some way. He/she is not being reinforced by someone else, but experiences direction and purpose by engaging in the behaviour. Thus, the behaviour is repeated.

Amotivated behaviours are neither intrinsically nor extrinsically motivated. The person has no incentive for engaging in the behaviours. The behaviours eventually cease because the person receives no reinforcement, either internal or external, for performing the behaviours.

Although Deci and Ryan's theory was based on the study of learning in young people, Vallerand and O'Connor (1989) found that the theory was useful in explaining the motivation of behaviour in elderly people. They found from their scale development research (1989) which utilized the ratings made by institutionalized elderly people of important life domains and situations that the four

types of motivational tendencies proposed by Deci and Ryan (1985) could be reliably measured in the elderly. They also found that the types of motivation are related to other important aspects of elderly people's lives. Vallerand and O'Connor's research implies that there is a link between perceived control and self-determination in learning, and other behaviour, in elderly people and that self-determination provides elderly people with a sense of purpose and direction that reinforces the behaviour.

### Self-directed Learning and the Elderly

Whether through the development of elderly persons' potential for choice and control (McClusky, cited in Hiemstra, 1981) or through the reinforcement of their existing sense of control (Vallerand & O'Connor, 1989; Vallerand et al., 1995), education for the elderly theoretically improves their life-satisfaction and well-being. Because of this belief, the increasing number of educated elderly people, and the rapidly changing nature of today's societies, adult education is becoming more interested in the educational needs of the elderly (Swindell & Thompson, 1995). An area of research in adult education that is particularly pertinent to the elderly but that has received scant attention world-wide in relation to the elderly, and no known attention in Australia, is that of self-directed learning.

Self-directed learning refers to a process whereby the learner assumes responsibility, not only for their own learning, but also for their own planning and evaluation of their learning experience (Brockett, 1987). According to Brockett, the results of descriptive studies in the 1970's have shown that the majority of adults engage in learning activities over the course of any given year. Furthermore, 70% of these activities are self-planned and implemented learning projects. Interest in the characteristics of self-directed learners and non-self-directed learners and the

implications of being one or the other grew from this research. It was thought that greater success in life might be attributable to the possession of the characteristics of the self-directed learner (Gibbons, Bailey, Comeau, Schmuck, Seymour & Wallace, 1980).

Gibbons et al. (1980) analysed the biographies of people who had experienced success without formal training. They found that these people shared a common set of characteristics. Several of the common characteristics were described by Guglielmino (1977) as being important for self-direction in learning: curiosity, creativity, self-discipline and perseverance.

Interest in self-directed learning has grown rapidly since universities first accepted dissertations on the topic (Long, 1993). Long and Redding (1991, in Long, 1993) uncovered 173 dissertations that were written on the topic of self-directed learning. Four of these were accepted by universities between 1966 and 1970 in contrast to 98 that were accepted between 1985 and 1991. Despite the growing interest in the topic in general, only six studies (Brockett, 1985a, 1987; Diaz, 1988; East, 1986; Sears, 1989; Fisher, 1987) were uncovered by this research concerning self-directed learning among the elderly. This perhaps reflects the attitude of today's society that elderly people are more reflective than they are productive or generative. It is an attitude supported by some developmental theories (eg., Ericson, 1982) but it is an attitude that has not kept pace with the demands modern society places on the elderly or with the changes that have occurred in elderly people themselves.

According to Randell and Mason (1995), the following are five major reasons why attention should be given to new kinds of education for the elderly:

1. There are going to be more older people than ever before, and they will be living to greater ages.
2. Older people will be spending a lot more time than their predecessors in a world that is fundamentally different- economically, socially, morally and culturally- from the one they grew up in. Moreover, this world is likely to continue to change.
3. The new generation of older people is more likely than past generations to be responsible for its own livelihood and moral and physical comfort.
4. Their previous education and assumptions have generally not prepared older people for such eventualities, in much the same way as many middle-aged men are not ready for enforced retirement.
5. Failure to provide such educational opportunities has the potential to produce a large, alienated, and possibly resentful population of older people. (p.393-394)

Sears (1989) found that older adults find self-fulfillment in self-directed learning and are motivated to engage in self-directed learning activities. Other studies (Brockett, 1985; 1987; Diaz, 1988; East, 1986) have found a relationship between self-directed learning and life satisfaction by determining the correlation of participants' self-directed learning scores obtained from the Self-directed Learning Readiness (SDLR) Scale (Guglielmino, 1977) and their scores on a measure of life satisfaction. The measure of life satisfaction used in both Brockett's and Diaz's studies was the Salomon/Conte Life Satisfaction in the Elderly Scale. East's (1989) dissertation abstract did not mention the measure of life satisfaction she used. The participants in each of these studies were over 60 years of age. Brockett sampled

people from two residential settings in New York, and both Diaz's and East's samples were selected from six residential centres and a retirement village, respectively, in Florida. Brockett (1987) concluded that both life satisfaction and self-directed learning emphasize independence. He suggests that people who remain in control of their lives are in a better position to be able to meet their own needs than people who depend upon others. This implies that self-directed learners are more likely to be in control of their lives.

### Self-directed Learning and Locus of Control

Internal locus of control and self-directed learning appear to be linked to each other and to well-being by independence or autonomy which, according to Ryff and Keyes (1995), involves self-determination and direction. Although a study was uncovered that collected data pertaining both to the participants' locus of control and self-directedness in learning, this study was looking for age, gender and/or race effects on each (Young, 1986). No studies that directly examined the theoretical links between internal locus of control, self-directed learning and well-being were uncovered. One study was located, however, that examined the relationship between anomia and zest, life satisfaction and self-directed learning participation by elderly people (Fisher, 1987). Fisher defines anomia as being a loss of a sense of purpose or direction or an uncertainty about purpose and direction resulting in feelings of powerlessness or alienation. Thus, anomia appears to be related to perceptions of control. Fisher surveyed two samples of people over the age of 55 years using a questionnaire consisting of measurement scales for each of the variables being examined for the first sample and a structured interview format for the second sample. The first sample consisted of 211 participants involved in educational activities who were matched with 211 non-participants on age, gender,

marital status and socioeconomic status in the second sample. Fisher found a statistically significant relationship between anomia and zest and participation in educational activities and between life satisfaction, mood tone and zest and self-directed learning participation in both samples. Fisher concludes that the association of anomia and zest to the dependent variables "participation in educational activities" and "self-directed learning participation" might denote that, "...participation in education-related activities serves as a vehicle for the expression of enthusiasm and confidence, and conversely, that lack of participation is associated with alienation, powerlessness, or isolation" (p. 143-144).

Links between locus of control and well-being and self-directed learning and well-being have been established. This research will examine the theoretical relationship between locus of control and perceived self-directed learning readiness and will examine whether locus of control or perceived self-directed learning readiness is a better predictor of well-being in the elderly.

### Hypotheses

It is expected that elderly people who demonstrate a high level of perceived readiness for self-directed learning will also demonstrate a high level of internal locus of control. Further, based on Diener's (1984) observations that both demographic and personal disposition variables (such as control) contribute little to the variance in well-being, it is expected that readiness for self-directed learning (the more abstract construct related to personal growth and direction in life) will be a better predictor of well-being for elderly people than internal locus of control. Stated formally, the hypotheses for this study were:

1. Elderly people who score highly on the measure of internal locus of control will also score highly on the measure of self-directed learning readiness.



2. Self-directed learning readiness scores of elderly people will uniquely contribute more to the variance in their well-being scores than will be uniquely contributed by their internal locus of control scores.

## Method

### Research Design

A correlational design was used in the study. There were five criterion variables and seven predictor variables. The criterion variables were the respondents' scores on the three sub-scales of the revised Philadelphia Geriatric Centre Morale Scale (PGCMS, Lawton, 1975) (see Appendix A), and the Autonomy and Personal Growth sub-scales of the Scales of Psychological Well-being (Ryff, 1989) (see Appendix B). The seven predictor variables were: the respondents' scores on each of the three sub-scales of the Levenson Locus of Control Scale (LLOC, Levenson, 1974) (see Appendix C); the respondents' scores on the Learning Preference Assessment (LPA, Guglielmino & Guglielmino, 1991) (see Appendix D); their years of prior education; their self-reported level of physical activity; and their self-reported level of satisfaction with their financial situation (see Appendix E).

### Participants

Three hundred and ten questionnaires were distributed to 17 locations. These locations consisted of: Universities of the Third Age in both Queensland and South Australia; a senior citizen centre in New South Wales; a New South Wales bowling club; a golf club in South Australia; two hostels in Western Australia; two autumn centres in Western Australia; and nine Western Australian retirement villages. One hundred and twenty-eight volunteers, who provided signed informed consent, returned their completed questionnaires. These participants represented 15

of the locations. No questionnaires were returned from the senior citizen centre in New South Wales or from one of the Western Australian hostels. Of the 128 questionnaires returned, 11 were not scored. Ten respondents were not in the age group of interest, which was 60 years or over, in keeping with prior research in the area of well-being and the elderly, and one questionnaire was missing too much data to be deemed useful. Of the remaining 117 respondents, 39 were male and 77 were female. One respondent did not indicate his/her gender. The age range of the respondents was 60 to 89 years with a mean of 73.91 (SD = 7.34).

### Materials

The questionnaire used in the study consisted of all of the items on the revised PGCMS (Lawton, 1975), the LPA scale (Guglielmino & Guglielmino, 1991) and the LLOC scale (Levenson, 1974) and the Autonomy and Personal Growth sub-scales of the Scales of Psychological Well-being (Ryff, 1989). In addition, respondents were asked to rate their degree of satisfaction with their financial situation on a dichotomous scale and their level of physical activity on a three-point scale. They were also asked to indicate their age, gender, and number of years of prior education. To aid the elderly participants' in reading the questionnaire, it was printed in large type (font = 14).

Well-being. The revised PGCMS, and the Personal Growth and Autonomy sub-scales were used to measure the well-being of the respondents. The original PGCMS (Lawton, 1972) was developed especially for use with elderly people. It was designed to reduce the effects of elderly persons' possible inability to concentrate for long periods and their possible inability to comprehend complicated instructions for responding to scale items. The revised PGCMS consists of 17 items to which participants respond on a dichotomous scale. A score is given for each

response that indicates positive morale. Lawton (1975) reported a high degree of internal consistency for each of the scale's three factors. Cronbach's alpha determined coefficients of .85 for the six items of the Agitation sub-scale, .81 for the five items of the Attitude Towards Own Aging sub-scale and .85 for the six items of the Lonely Dissatisfaction sub-scale. Split half reliability was reported by Lawton (1972) to be .79 for the original 22-item version of the scale on a sample of 300 participants.

Lawton defined morale as:

...a basic sense of satisfaction with oneself. The person with high morale has a feeling of having attained something in his [sic] life, of being useful now, and thinks of himself [sic] as an adequate person.... High morale also means a feeling that there is a place in the environment for oneself -- that the people and things in one's life offer some satisfaction to the individual -- a fit between personal needs and what the environment offers ... High morale also means a certain acceptance of what cannot be changed.... (p. 148)

This definition considers all of the factors of well-being which were theoretically derived by Ryff (1989) except for the factors that recognize that positive psychological functioning involves continued personal growth or development and self-determination. Therefore, Ryff's Personal Growth and Autonomy sub-scales were included as factors of the well-being measure in this study. According to Ryff (1989), the high scorer on the Personal Growth scale:

...has a feeling of continued development; sees self as growing and expanding; is open to new experiences; has sense of realizing his or her potential; sees improvement in self and behaviour over time; is changing in ways that reflect more self-knowledge and effectiveness. (p. 1072)

The high scorer on the Autonomy scale:

...is self-determining and independent; able to resist social pressures to think and act in certain ways; regulates behaviour from within; evaluates self by personal standards. (p. 1072)

The Personal Growth and the Autonomy scales each consist of 20 items. Respondents rate themselves on each item. Based on a research sample of 321 young, middle-aged and elderly adults, the internal consistency ( $\alpha$ ) coefficients of the Personal Growth and Autonomy sub-scales were reported by Ryff as being .87 and .86 respectively. Over a period of six weeks, the test-retest reliability coefficients, based on a sub-sample of the respondents ( $n = 117$ ), were .81 and .88.

Locus of Control. The three sub-scales of the LLOC (Levenson, 1974) were used to assess predictability of well-being from measures of control. The LLOC was developed in response to criticisms that the Rotter (1966) I-E scale lacked discriminant validity (Levenson, 1974; Reid & Ware, 1973). It was argued that the Rotter scale, which was claimed to be unidimensional, was actually multidimensional (Levenson, 1974). Therefore, Levenson designed three sub-scales to measure the factors said to be underlying the Rotter I-E scale. The resulting sub-scales were labelled: Powerful Others Control; Internal Control; and Chance Control. Each of the sub-scales consists of eight items. Respondents select their response to each item from a 6-point Likert scale ranging from "strongly agree" to "strongly disagree". The sub-scales can be scored independently or summed together as a total locus of control score. Levenson (1974) reported Kuder-Richardson reliability figures for each of the sub-scales: .64 for the Powerful Others dimension, .77 for the Internal Control dimension and .78 for the Chance Control dimension. Split-half reliabilities were .62, .66 and .64 respectively.

Test-retest reliabilities for a one-week period were .64, .74 and .78. The results of a factor analysis undertaken by Levenson supported the three dimensions of locus of control she proposed. The construct validity of the LLOC scale, when used with an elderly population, has been questioned and some of the items were found to load on more than one factor (Shewchuk, Foelker, & Niederehe, 1990). It was therefore suggested by Shewchuk, Foelker, Camp and Blanchard-Fields (1992), that the scale should be collapsed to form a unidimensional internal-external scale like the original scale proposed by Rotter (1966). However, other studies have used the three LLOC sub-scales with elderly people and validated its use with that population (Lachman et al. 1987; Molinari & Niederehe, 1984; Nehrke, Hulicka, & Morganti, 1980; Reich & Zautra, 1990; Seigler & Gatz, 1985).

Self-directed Learning Readiness. Self-directed learning, according to Guglielmino and Guglielmino (1991), "...refers to the degree to which a person prefers to be independent and direct his or her own learning" (p. 7). The high scorer on the LPA scale:

...exhibits initiative, independence, and persistence in learning; accepts responsibility for his or her own learning; views problems as challenges not obstacles; is capable of self-discipline; has a high degree of curiosity; has a strong desire to learn or change; is self-confident; is able to use basic study skills; is able to organize his or her time and establish an appropriate pace for learning; develops a plan for completing work; is goal oriented; and enjoys learning. (p. 7)

The LPA scale is a 58 item, five-point Likert response scale. It is a reproduction of the Self-directed Learning Readiness (SDLR) scale (Guglielmino, 1977). The LPA differs from the original scale only in the addition of a self-scoring

format that enables simpler use with individuals. An internal reliability coefficient of .87 (based on a sample of 307 participants) was reported for the SDLR (Guglielmino, 1977). Response choices on the LPA scale range from "almost always true of me" to "almost never true of me". According to Guglielmino, the original scale was constructed using a modification of the Delphi technique. Fourteen authorities on self-direction in learning were involved in a three-round survey during which they were asked to rate the important characteristics of self-directed learners. Characteristics with high ratings were used as the basis for constructing the SDLR scale items. The SDLR scale has been used in several studies with the elderly (Brockett, 1985a; 1987; East 1986; Diaz, 1988). Field (1989) questioned the validity of the SDLR scale, however, several other studies have validated the scale as a measure of readiness for self-directed learning (Brockett, 1985a; Caffarella & O'Donnell, 1987; Delahaye & Smith, 1995).

#### Procedure

The researcher telephoned the reception offices of all the retirement villages and hostels for the elderly in the northwest metropolitan region of Perth that were listed in the Perth telephone directory. Batches of either 10 or 20 questionnaires (depending upon the size and type of institution), including covering letters to the participants (see Appendix F), were delivered to each of the locations that agreed to distribute them among residents. For example, only 10 questionnaires were delivered to hostels at which many dementia sufferers reside. Staff at these institutions distributed the questionnaires to people they considered able to comprehend and complete it. Staff at retirement villages informed residents of the research during scheduled gatherings and requested their participation. Participating residents then approached the reception office voluntarily at a later time to request

the questionnaire. Envelopes were included with each questionnaire and a date for the return of the completed, sealed questionnaires to the reception office was included on the participants' covering letters. This date was one week from the date they were delivered to the location. As a reminder, the researcher telephoned the reception offices at each location two days prior to the pick-up dates.

Each interstate location that agreed by phone to distribute the questionnaires to its elderly members or students was posted a batch of 20 questionnaires. A covering letter for participants was attached to each questionnaire and a covering letter for the institution was also included (see Appendix F). A return date of two weeks from the date of postage was included in the participants' covering letters along with stamped addressed envelopes.

### Analysis

In order to determine the feasibility of producing one composite criterion variable by summing the scale scores of the five criterion variables, factor analyses were performed on the criterion variables. Two parallel hierarchical multiple regression analyses were then performed using the factors that emerged in the factor analysis. The regression analyses determined the portion of the variance of each of the factors that was accounted for by internal locus of control and by self-directed learning readiness after financial satisfaction, prior education, level of physical activity and the two external measures of locus of control had been controlled.

This research was interested in the relative unique contributions of internal locus of control and self-directed learning readiness to the prediction of well-being. Therefore, "Satisfaction with Financial Situation", "Physical Activity Level" and "Prior Education", all previously established predictors of well-being (George 1980), were entered at the first step of the hierarchical regression

analyses. "Chance" locus of control and "Powerful Others" locus of control each measure different dimensions of external locus of control. Therefore, they were entered together at the second step. "Internal" locus of control, a factor of interest in this research that has long been reported to be a contributor to well-being (Reid & Zeigler, 1980; Reich & Zautra, 1990), was entered at the third step.

Self-directed learning readiness, the variable most recently found to be associated with well-being and the variable of most interest in this research, was entered at the fourth step. The intercorrelations of all of the criterion and predictor variables are shown in Table 1.

## Results

### Data Screening

All variables (criterion and predictor) were screened to check the assumptions for factor analysis and hierarchical multiple regression. The variables were all measured on a continuous level except for "satisfaction with financial situation", which was dichotomous, and "physical activity level" which was originally categorical including low, moderate and high physical activity. In order for the hierarchical multiple regression analyses to accommodate the categorical variable it was dummy coded to create the dichotomous variables "low physical activity" and "moderate physical activity". Few participants rated themselves as high in physical activity. Participants' ratings of their physical activity levels were coded as either "0" (no) or "1" (yes) for Low Physical Activity and "0" (no) or "1" (yes) for Moderate Physical Activity. Thus, participants who rated themselves as being high in physical activity received a code of "0" in both the Low and Moderate Physical Activity variables. Assumptions of linearity, homoscedasticity and multicollinearity and singularity were met for all of the variables.



Table 1

Intercorrelations and Descriptive Statistics for the Criterion Variables (resulting from the factor analysis) and Predictor Variables

Variables	Satisfaction With Finances	Low Physical Activity	Moderate Physical Activity	Prior Education	LOC Chance	LOC Powerful Others	LOC Internal	Self- Directed Learning	Situation Well- Being	Develop. Well- Being
Sat. with Finances	1.00									
Low.phys.	-.02	1.00								
Mod. Phys.	-.02	-.65***	1.00							
Prior Ed.	.05	-.00	-.03	1.00						
LOC.Chance	.10	-.14	.04	.01	1.00					
LOC. P.Others	.25**	-.14	-.04	.03	.63	1.00				
LOC. Internal	.17	.00	-.14	-.01	.01	.08	1.00			
SD Learning	-.00	-.26**	-.07	.19*	.28**	.24**	.26**	1.00		
Situation WB	.49***	-.14	-.05	.03	.26**	.35***	.24**	.34***	1.00	
Develop. WB	.03	-.20	-.03	.07	.26**	.35***	.32***	.59***	.37***	1.00
MEAN				12.03	29.34	32.22	37.26	217.73	26.61	177.73
SD				3.57	6.41	6.61	3.62	25.27	7.02	24.63

One-tail sig. \*p.&lt;.05, \*\*p.&lt;.01, \*\*\*p.&lt;.

The assumption of normality was met for all continuous independent and dependent variables except for the variables Attitude Towards Own Aging, Agitation and Lonely Dissatisfaction (the three sub-scales of the PGCMS) and the total PGCMS scale. These variables were found to be negatively skewed. This, however, is consistent with the general findings with this scale. According to Diener and Diener (1996), most people report positive subjective well-being on various different measures of well-being. Thus, no transformations were performed on the variables. The variable "Prior Education" was found to be positively skewed ( $M = 11.98$ ;  $Mdn = 11.00$ ; mode = 10.00). The participants' prior education was directly measured using their reported number of years of education. Therefore, in order to retain the meaningfulness of the data, transformations were not performed. The added risk in committing a type II error by not transforming the prior education data was considered to be unimportant in this study because prior education was a control variable (Keppel & Zedeck, 1989). No multivariate outliers were found in the data. One hundred and eight cases remained after deletion of three univariate outliers on criterion variables and listwise deletion of cases with data missing on criterion and/or predictor variables. This was considered an adequate sample for the factor and hierarchical multiple regression analyses (Green, 1991; Tabachnick & Fidell, 1996). Descriptive statistics for the continuous variables are shown in Table 1.

Weak statistically significant positive correlations were found between the self-directed learning readiness variable and each of the locus of control variables (see Table 1). Weak to moderate statistically significant positive correlations were found between each of the locus of control variables and the well-being variables. Moderate to strong statistically significant positive correlations were found between the self-directed learning variable and the well-being variables.

### Factor Analysis

An initial principle components analysis with oblimin rotation was performed on the five criterion variables using the factor analysis procedure in SPSS for Windows. Two factors with eigenvalues greater than one were extracted. These accounted for 66.6% of the variance. The factor loadings, communalities ( $h^2$ ), and percentages of variance explained after oblimin rotation are shown in Table 2. The correlation between the two factors was -.241. Correlations between the criterion variables are shown in Table 3.

Variables that loaded on factor one seemed to be concerned with the respondents' evaluations of their current life situation. Variables loading on factor two seemed to be concerned with the respondents' evaluations of their personal development in terms of development to date and expectations about their future development. Thus, the two factors were labelled as Situation Well-being and Development Well-being respectively.

Table 2  
Obimin Rotated Factor Pattern Matrix for Criterion (Well-being) Variables

Scale	<u>Factors</u>		<u>h<sup>2</sup></u>
	1	2	
Autonomy (AUT)	-.115	-.874	-.777
Personal Growth (PERGRO)	.178	-.809	-.623
Lonely Dissatisfaction (LONDIS)	.872	.247	.822
Agitation (AGIT)	.673	-.143	.432
Attitude to Aging (ATTAG)	.618	-.347	.262 % of
variance	43.9	22.6	66.6Label
	Situation	Development	

Table 3  
Correlation Matrix of the Criterion Variables

Variable	Agitation	Attitude toward Own Aging	Lonely Dissatisfaction	Autonomy	Personal Growth
Agitation	1.00				
Attitude to Aging	.36	1.00			
Lonely Dissat.	.33	.33	1.00		
Autonomy	.23	.20	.02	1.00	
Personal Growth	.25	.51	.14	.51	1.00

Hierarchical Multiple Regression Analyses

A significant overall model was produced by the first hierarchical multiple regression analysis,  $F(8,99) = 8.00, p < .001$ . Results are shown in Table 4. The combined contribution to the variance of Situation Well-being by Satisfaction with Finances, Low Physical Activity, Moderate Physical Activity and Prior Education was a significant 28%  $F(4,103) = 10.20, p < .001$ . "Chance" locus of control and "Powerful Others" locus of control contributed a further significant 4% at the second stage  $F(6,101) = 8.22, p < .001$ . "Internal" locus of control contributed 2%  $F(7,100) = 7.53, p < .001$  and Self-directed Learning contributed significantly, after all of the other predictor variables had been controlled, a further 5% to the variance in Situation Well-being at the final stage.

Table 4

Results of the Final Step of the First Hierarchical Multiple Regression Analysis

Variable	B	Beta	R <sup>2</sup> Change	SigT
Satisfaction with finances	7.81	.44		<.001
Low physical activity	-1.54	-.07		>.05
Moderate physical activity	-.94	-.06		>.05
Prior education	-.09	-.05	<u>Step 1</u> .28	>.05
LOC (chance control)	.06	.06		>.05
LOC (powerful others control)	.13	.12	<u>Step 2</u> .04	>.05
LOC (internal control)	.15	.07	<u>Step 3</u> .02	>.05
Self-directed learning	.07	.26	<u>Step 4</u> .05	<.05

Table 5 shows the results of the second hierarchical regression analysis.

Table 5

Results of the Final Step of the Second Hierarchical Multiple Regression Analysis

Variable	B	Beta	R <sup>2</sup> Change	SigT
Satisfaction with finances	- 3.77	-.06		>.05
Low physical activity	-1.94	-.03		>.05
Moderate physical activity	1.25	.02		>.05
Prior education	-.18	-.03	<u>Step 1</u> .09	>.05
LOC (chance control)	-.14	-.04		>.05
LOC (powerful others control)	.95	.25	<u>Step 2</u> .09	<.05
LOC (internal control)	1.28	.19	<u>Step 3</u> .08	<.05
Self-directed learning	.47	.49	<u>Step 4</u> .17	<.001

The overall model produced by the second hierarchical multiple regression analysis was found to be significant,  $F(8, 99) = 9.18, p < .001$ . The combined contribution of Satisfaction with Finances, Low Physical Activity, Moderate Physical Activity and Prior Education to the variance in Development Well-being was 9% and did not reach statistical significance  $F(4, 103) = 2.39, p > .05$ . "Chance" locus of control and "Powerful Others" locus of control significantly contributed a further 9%  $F(6, 101) = 3.60, p < .05$ . "Internal" locus of control contributed a significant 8% to the variance in Development Well-being  $F(7, 100) = 5.00, p < .05$ . Self-directed learning, after all other predictor variables had been controlled, contributed 17% to the variance in Development Well-being.

### Discussion

The hypothesis, that a relationship between internal locus of control and self-directed learning readiness would be found, was supported by this study. Elderly people who scored highly on the measure of self-directed learning readiness also tended to score highly on internal locus of control. In addition, weak to moderate statistically significant positive correlations between the locus of control sub-scale scores and the well-being measures were found. This is consistent with previous literature (Reid & Zeigler, 1980; Baker, 1977) that has suggested a relationship between locus of control and well-being in the elderly. Moderate to strong statistically significant positive correlations were found between the measure of self-directed learning readiness and the well-being measures. The correlations between self-directed learning readiness and development well-being were stronger than correlations found in previous research between self-directed learning readiness and life-satisfaction (Brockett, 1985; 1987). This is likely to be due to the broad definition of well-being that guided this research and included continued personal development, instead of the narrower definition of well-being as life-satisfaction that has guided the previous research.

The results of this study suggest there are two somewhat different facets of well-being and they parallel the sources of these different facets as two different scales. Development Well-being was derived from the Scales of Psychological Well-being (Ryff, 1989) and Situation Well-being was derived from the PGCMS. The distinction between the two forms of well-being might arise from method variance associated with the different origins of the scales and not with the overt content. Thus, the stronger correlation found between self-directed learning

readiness and development well-being than found between self-directed learning readiness and situation well-being could to be due to methodology.

However, the pattern of results is consistent with theory. The use of all the Scales of Psychological Well-being in a future study, together with the PGCMS could determine whether methods in content variance were the factors underlying the present results. Like the measures of life-satisfaction discussed above, the PGCMS by itself does not adequately tap the important personal growth and development aspects of well-being. Thus, the PGCMS by itself, is not a complete measure of well-being. Nevertheless, a statistically significant positive correlation was found between the scores on the PGCMS and the scores on the self-directed learning readiness measure. This indicates a relationship between elderly persons' affective evaluations of their current situation and their readiness to engage in self-directed learning activities.

Unlike Diener's (1984) observations that demographic factors contribute little to the variance in well-being, this research found significant contributions. It found that satisfaction with financial situation; physical activity levels and prior education together significantly accounted for 28% of the variance in situation well-being. It does appear, however, that demographic factors are better predictors of well-being in terms of one's current situation than they are of one's expectations about future development. The combined contribution of these variables to the variance in Development Well-being did not reach statistical significance.

Contrary to previous findings (Campbell et al., 1976), prior education did not contribute significantly to the variance in either of the criterion variables. However, this might be because the sample of elderly participants in this study was relatively well educated and homogenous in terms of education background. The mean



number of years of prior education for the sample (after deletion of univariate outliers on the criterion variables) was 12.03 (SD = 3.57).

The contributions to the variance of well-being made by the locus of control sub-scales "Powerful Others Control" and "Chance Control" mostly did not reach statistical significance. Together, these variables accounted for 5% of the variance in situation well-being and 9% of the variance in Development Well-being. The contribution of "Powerful Others Control" to the variance in Development Well-being only, reached statistical significance. The Development Well-being scale was a composite of the Personal Growth Scale and the Autonomy Scale (Ryff, 1989). It might be that "Powerful Others Control" and "Autonomy" are measuring a similar underlying construct, although the correlation between the two constructs was moderate.

The hypothesis that self-directed learning readiness would uniquely contribute more to the variance in well-being than internal locus of control was also supported. "Internal Control" accounted for a significant 8% in development well-being but failed to contribute significantly to the variance in situation well-being after other factors had been taken into account. Thus, for the measure of participants' evaluation of their current situation in light of past affect and events, internal control appears not to be important. But for the measures that are concerned with participants' evaluations of their well-being in terms of their expectations about future growth and development and independence, internal control does seem to be important. It seems reasonable to suppose that past events are evaluated in terms of their outcomes and not in terms of the amount of control the person perceives that they had over those outcomes, whereas one's perceived control becomes an issue when future possibilities are evaluated. It might be that when perceived control is

believed to interfere with the attainment of a future goal, people are either unhappy or they adjust their goals to meet their evaluations of their ability to attain their goals. This could partly explain why most people report well-being (Diener & Diener, 1996). As Diener and Diener suggest, failure to adjust goals to match the expectations one has about his/her ability (considering that perceived control affects expectations about ability) to achieve those goals might account for the lack of well-being reported by the minority. More research in the area of goal adjustment might assist in our understanding of the maintenance of well-being in later life.

Self-directed learning readiness contributed significantly to the variance in both of the measures of well-being. It contributed, independent of other factors, 5% to the variance in situation well-being and 17% to the variance in development well-being. Although the amount of variance in situation well-being accounted for by self-directed learning readiness was small, it contributed more to this criterion variable than did internal control. Furthermore, self-directed learning readiness accounted for more of the variance in both well-being measures than did internal control.

Although direction of cause cannot be determined by correlational studies, it would appear that the well-being of elderly people might be enhanced by their involvement in self-directed learning projects. The difficulty for health professionals, social workers and adult educators in involving elderly people in these activities, however, is that those people who would appear to benefit most from such involvement are likely to be the people who are least motivated to take part. According to Vallerand et. al (1994), feeling pressured to take part in such activities might adversely affect the well-being of the elderly person. Therefore, encouragement might be counterproductive. They suggest that an environment that

provides choice and opportunities for involvement and autonomy is more likely to promote motivation and thus activity.

The significant positive correlations found between the locus of control measures and self-directed learning indicate that it might be possible to change the control beliefs of elderly people through involvement in self-directed learning projects, and, in turn, increase their sense of well-being. If there is a relationship between locus of control, self-directed learning and well-being in the elderly as suggested by this study, then studies which will determine cause and effect are needed in this area. As Long (1993) pointed out, it might be that people who enjoy well-being are the people who engage in self-directed learning projects. The same might be true for internal control. Those with high internal control might be more inclined towards self-directed learning projects. Nevertheless, self-directed learning appears to be a useful strategy for promoting independence, high levels of control and well-being in later life. It might also be useful for child educators to promote the skills and values associated with self-directed learning in children and young people so that their life experiences provide them with the ability to make appropriate choices for themselves regarding continued learning later on.

Before results of this study are generalized to the wider population of elderly people it should be recognized that this sample was relatively homogenous in terms of prior education (see Table 1). In addition, although it included a broad range of socioeconomic background, most of the participants were residents of retirement villages thus people with a low socioeconomic background were under-represented.

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## Appendix A

### Philadelphia Geriatric Centre Morale Scale (Lawton, 1975)

The Revised Philadelphia Geriatric Centre Morale Scale

FOR THE FOLLOWING STATEMENTS, TICK THE RESPONSE WITH WHICH YOU MOST AGREE. PLEASE BE SURE TO ANSWER EVERY QUESTION ON THE LIST.

1. Things keep getting worse as I get older. YES\_\_\_\_ NO\_\_\_\_
2. I have as much pep as I did last year. YES\_\_\_\_ NO\_\_\_\_
3. How much do you feel lonely? NOT MUCH\_\_\_\_ A LOT\_\_\_\_
4. Little things bother me more this year. YES\_\_\_\_ NO\_\_\_\_
5. I see enough of my friends and relatives. YES\_\_\_\_ NO\_\_\_\_
6. As you get older you are less useful. YES\_\_\_\_ NO\_\_\_\_
7. I sometimes worry so much that I can't sleep. YES\_\_\_\_ NO\_\_\_\_
8. As I get older, things are (better, worse, same)  
than/as I thought they would be. BETTER\_\_\_\_ WORSE\_\_\_\_ SAME\_\_\_\_
9. I sometimes feel that life isn't worth living. YES\_\_\_\_ NO\_\_\_\_
10. I am as happy now as I was when I was younger. YES\_\_\_\_ NO\_\_\_\_
11. I have a lot to be sad about. YES\_\_\_\_ NO\_\_\_\_
12. I am afraid of a lot of things. YES\_\_\_\_ NO\_\_\_\_
13. I get mad more than I used to. YES\_\_\_\_ NO\_\_\_\_
14. Life is hard for me most of the time. YES\_\_\_\_ NO\_\_\_\_
15. How satisfied are you with your life today? NOT SATISFIED\_\_\_\_ SATISFIED\_\_\_\_
16. I take things hard. YES\_\_\_\_ NO\_\_\_\_
17. I get upset easily. YES\_\_\_\_ NO\_\_\_\_

Thank-you for completing this questionnaire.

## Appendix B

### Autonomy and Personal Growth Scale of the Scales of Psychological Well-being

(Ryff, 1989)

The Autonomy Scale (Scales of Psychological Well-being, Ryff, 1989)

Please read each statement carefully and circle the letters of the response that best expresses your feelings. Please use the following key.

**SA = Strongly Agree**

**A = Agree**

**UA = Usually Agree**

**UD = Usually Disagree**

**D = Disagree**

**SD = Strongly Disagree**

- |   |    |   |    |    |   |    |
|---|----|---|----|----|---|----|
| 1. Sometimes I change the way I act and think to be more like those around me.                                  | SA | A | UA | UD | D | SD |
| 2. If my friends disapprove of my actions, I am likely to change what I'm doing.                                | SA | A | UA | UD | D | SD |
| 3. I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people.       | SA | A | UA | UD | D | SD |
| 4. My decisions are not usually influenced by what everyone else is doing.                                      | SA | A | UA | UD | D | SD |
| 5. I tend to worry about what other people think of me.   | SA | A | UA | UD | D | SD |
| 6. Being happy with myself is more important to me than having others approve of me.                            | SA | A | UA | UD | D | SD |
| 7. When making important decisions, I nearly always rely on the advice of others.                               | SA | A | UA | UD | D | SD |
| 8. I tend to be influenced by people with strong opinions.  | SA | A | UA | UD | D | SD |
| 9. I care about what other people think of me, but I feel that my own attitude toward myself is most important. | SA | A | UA | UD | D | SD |

**SA = Strongly Agree**

**A = Agree**

**UA = Usually Agree**

**UD = Usually Disagree**

**D = Disagree**

**SD = Strongly Disagree**

---

10. People rarely talk me into doing things I don't want to do.	SA	A	UA	UD	D	SD
11. It is more important to me to "fit in" with others than to stand alone on my principles.	SA	A	UA	UD	D	SD
12. I have confidence in my opinions, even if they are contrary to general consensus.	SA	A	UA	UD	D	SD
13. I am unsure of myself when I have to face complicated situations alone.	SA	A	UA	UD	D	SD
14. I occasionally notice myself acting in ways that other people expect.	SA	A	UA	UD	D	SD
15. In a game of "follow the leader," I would rather be a follower.	SA	A	UA	UD	D	SD
16. It's difficult for me to voice my own opinions on controversial matters.	SA	A	UA	UD	D	SD
17. I often change my mind about decisions if my friends or family disagree.	SA	A	UA	UD	D	SD
18. I am not the kind of person who gives in to social pressures to think or act in certain ways.	SA	A	UA	UD	D	SD
19. I am concerned about how people evaluate the choices I have made in my life.	SA	A	UA	UD	D	SD
20. I judge myself by what I think is important, not by the value of what others think is important.	SA	A	UA	UD	D	SD

The Personal Growth Scale (Scales of Psychological Well-being, Ryff, 1989)

Please read each statement carefully and circle the letters of the response that best expresses your feelings. Please use the following key.

**SA = Strongly Agree**  
**A = Agree**  
**UA = Usually Agree**

**UD = Usually Disagree**  
**D = Disagree**  
**SD = Strongly Disagree**

1. I see myself as having matured over the years.	SA	A	UA	UD	D	SD
2. I am not interested in activities that will expand my horizons.	SA	A	UA	UD	D	SD
3. In general, I feel that I continue to learn more about myself as time goes by.	SA	A	UA	UD	D	SD
4. I am the kind of person who likes to give new things a try.	SA	A	UA	UD	D	SD
5. I don't want to try new ways of doing things- my life is fine the way it is.	SA	A	UA	UD	D	SD
6. I think it is important to have new experiences that challenge how you think about the world.	SA	A	UA	UD	D	SD
7. When I think about it, I haven't really improved much as a person over the years.	SA	A	UA	UD	D	SD
8. In my view, there is always room for self-improvement.	SA	A	UA	UD	D	SD
9. I am an adaptable and flexible person who is not afraid of change.	SA	A	UA	UD	D	SD
10. In my view, people of every age are able to continue growing and developing.	SA	A	UA	UD	D	SD
11. I wish I still had the sense of growth and expansion that I used to feel.	SA	A	UA	UD	D	SD



**SA = Strongly Agree**

**A = Agree**

**UA= Usually Agree**

**UD = Usually Disagree**

**D = Disagree**

**SD = Strongly Disagree**

---

12. With time, I have gained a lot of insight about life that has made me a stronger, more capable person.

SA    A    UA    UD    D    SD

13. I have the sense that I have developed a lot as a person over time.

SA    A    UA    UD    D    SD

14. I do not enjoy being in new situations that require me to change my old familiar ways of doing things.

SA    A    UA    UD    D    SD

15. For me, life has been a continuous process of learning, changing, and growth.

SA    A    UA    UD    D    SD

16. I enjoy seeing how my views have changed over the years.

SA    A    UA    UD    D    SD

17. Some people are good at learning new things, but I am not one of them.

SA    A    UA    UD    D    SD

18. I often seek out new experiences that will challenge my old ways of thinking.

SA    A    UA    UD    D    SD

19. I gave up trying to make big improvements or changes in my life a long time ago.

SA    A    UA    UD    D    SD

20. There is truth to the saying “you can’t teach an old dog new tricks”.

SA    A    UA    UD    D    SD

Thank-you for completing this questionnaire

## Appendix C

### Levenson Locus of Control Scale (Levenson, 1974)

### The Levenson Locus of Control Scale

Please read each statement carefully and circle the letters of the response that best expresses your feelings. Please use the following key.

Key: SA = Strongly Agree	UD = Usually Disagree
A = Agree	D = Disagree
UA = Usually Agree	SD = Strongly Disagree

Try not to spend too much time on any one item. Your first reaction to the statement will probably be the most accurate.

- |  |    |   |    |    |   |    |
|--|----|---|----|----|---|----|
| 1. Whether or not I get to be a leader depends mostly on my ability.   | SA | A | UA | UD | D | SD |
|  |    |   |    |    |   |    |
| 2. To a great extent my life is controlled by accidental happenings.   | SA | A | UA | UD | D | SD |
|  |    |   |    |    |   |    |
| 3. I feel like what happens in my life is mostly determined by powerful people.  | SA | A | UA | UD | D | SD |
|  |    |   |    |    |   |    |
| 4. Whether or not I get into a car accident depends mostly on how good a driver I am.  | SA | A | UA | UD | D | SD |
|  |    |   |    |    |   |    |
| 5. When I make plans, I am almost certain to make them work.   | SA | A | UA | UD | D | SD |
|  |    |   |    |    |   |    |
| 6. Often, there is no chance of protecting my personal interest from bad luck happening.   | SA | A | UA | UD | D | SD |
|  |    |   |    |    |   |    |
| 7. When I get what I want, it's usually because I'm lucky.   | SA | A | UA | UD | D | SD |
|  |    |   |    |    |   |    |
| 8. Although I might have good ability, I will not be given leadership responsibility without appealing to those in positions of power. | SA | A | UA | UD | D | SD |
|  |    |   |    |    |   |    |
| 9. How many friends I have depends on how nice a person I am.  | SA | A | UA | UD | D | SD |

**SA = Strongly Agree**

**A = Agree**

**UA = Usually Agree**

**UD = Usually Disagree**

**D = Disagree**

**SD = Strongly Disagree**

---

10. I have often found that what is going to happen will happen.	SA	A	UA	UD	D	SD
11. My life is chiefly controlled by powerful others.	SA	A	UA	UD	D	SD
12. Whether or not I get into a car accident is mostly a matter of luck.	SA	A	UA	UD	D	SD
13. People like myself, have very little chance of protecting our personal interests, when they conflict with those of strong pressure groups.	SA	A	UA	UD	D	SD
14. It's not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune.	SA	A	UA	UD	D	SD
15. Getting what I want requires pleasing people above me.	SA	A	UA	UD	D	SD
16. Whether or not I get to be leader depends on whether I am lucky enough to be in the right place at the right time.	SA	A	UA	UD	D	SD
17. If important people were to decide they didn't like me, I probably wouldn't make many friends.	SA	A	UA	UD	D	SD
18. I can pretty much determine what will happen in my life.	SA	A	UA	UD	D	SD
19. I am usually able to protect my personal interests.	SA	A	UA	UD	D	SD
20. Whether or not I get into a car accident depends mostly on the other driver.	SA	A	UA	UD	D	SD

**SA = Strongly Agree**

**A = Agree**

**UA = Usually Agree**

**UD = Usually Disagree**

**D = Disagree**

**SD = Strongly Disagree**

---

21. When I get what I want, it is usually  
because I worked hard for it.

SA    A    UA    UD    D    SD

22. In order to have my plans work, I  
make sure that they fit in with the  
desires of people who have power  
over me.

SA    A    UA    UD    D    SD

23. My life is determined by my own  
actions.

SA    A    UA    UD    D    SD

24. It is chiefly a matter of fate whether  
or not I have a few friends or many  
friends.

SA    A    UA    UD    D    SD

Thank-you for completing this questionnaire.

## Appendix D

### Learning Preference Assessment (Guglielmino & Guglielmino, 1991)

The Learning Preference Assessment

CODE \_\_\_\_\_

The following 58 items in this questionnaire are designed to gather information on your learning preferences and your attitudes towards learning. Please read each item and indicate the degree to which you feel that the statement is true of you. Read each response choice carefully and circle the letters of the response that best expresses your feeling about that statement.

There is no time limit for completing the Assessment. Please complete the questionnaire independently and try not to spend too much time on any one item. Your first reaction to the statement will probably be the most accurate. PLEASE BE SURE TO ANSWER EVERY ITEM.

- KEY:
- |     |   |  |
|-----|---|--|
| AAT | = | Almost Always True of Me. (There are very few times when I don't feel this way). |
| UT  | = | Usually True of Me. (I feel this way more than half of the time).                |
| ST  | = | Sometimes true or Me. (I feel this way about half of the time).                  |
| UNT | = | Usually Not True of Me. (I feel this way less than half of the time).            |
| ANT | = | Almost Never True of Me. (I hardly ever feel this way).                          |

**AAT = Almost Always True of Me**

**UT = Usually True of Me**

**ST = Sometimes True of Me**

**UNT = Usually Not True of Me**

**ANT = Almost Never True of Me**

---

- |  |     |    |    |     |     |
|--|-----|----|----|-----|-----|
| 1. I'm looking forward to learning as long as I live.  | AAT | UT | ST | UNT | ANT |
| 2. I know what I want to learn.  | AAT | UT | ST | UNT | ANT |
| 3. When I see something that I don't understand, I stay away from it.  | AAT | UT | ST | UNT | ANT |
| 4. If there is something I want to learn, I can figure out a way to learn it.  | AAT | UT | ST | UNT | ANT |
| 5. I love to learn.  | AAT | UT | ST | UNT | ANT |
| 6. It takes me a while to get started on new projects.   | AAT | UT | ST | UNT | ANT |
| 7. In a classroom situation, I expect the instructor to tell all class members exactly what to do at all times.                          | AAT | UT | ST | UNT | ANT |
| 8. I believe that thinking about who you are, where you are, and where you are going should be a major part of every person's education. | AAT | UT | ST | UNT | ANT |
| 9. I don't work very well on my own.   | AAT | UT | ST | UNT | ANT |
| 10. If I discover a need for information that I don't have, I know where to go to get it.  | AAT | UT | ST | UNT | ANT |
| 11. I can learn things on my own better than most people.  | AAT | UT | ST | UNT | ANT |



**AAT = Almost Always True of Me**  
**UT = Usually True of Me**  
**ST = Sometimes True of Me**

**UNT = Usually Not True of Me**  
**ANT = Almost Never True of Me**

---

12. Even if I have a great idea, I can't seem to develop a plan for making it work.	AAT	UT	ST	UNT	ANT
13. In a learning experience, I prefer to take part in deciding what will be learned and how.	AAT	UT	ST	UNT	ANT
14. Difficult study doesn't bother me if I'm interested in something.	AAT	UT	ST	UNT	ANT
15. No one but me is truly responsible for what I learn.	AAT	UT	ST	UNT	ANT
16. I can tell whether I'm learning something well or not.	AAT	UT	ST	UNT	ANT
17. There are so many things I want to learn that I wish that there were more hours in a day.	AAT	UT	ST	UNT	ANT
18. If there is something I have decided to learn, I can find time for it, no matter how busy I am.	AAT	UT	ST	UNT	ANT
19. Understanding what I read is a problem for me.	AAT	UT	ST	UNT	ANT
20. If I don't learn, it's not my fault.	AAT	UT	ST	UNT	ANT
21. I know when I need to learn more about something.	AAT	UT	ST	UNT	ANT

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**AAT = Almost Always True of Me**  
**UT = Usually True of Me**  
**ST = Sometimes True of Me**

**UNT = Usually Not True of Me**  
**ANT = Almost Never True of Me**

---

- |   |     |    |    |     |     |
|---|-----|----|----|-----|-----|
| 22. If I can understand something well enough to get by, it doesn't bother me if I still have questions about it. | AAT | UT | ST | UNT | ANT |
| 23. I think libraries are boring places.  | AAT | UT | ST | UNT | ANT |
| 24. The people I admire most are always learning new things.  | AAT | UT | ST | UNT | ANT |
| 25. I can think of many different ways to learn about a new topic.  | AAT | UT | ST | UNT | ANT |
| 26. I try to relate what I am learning to my long-term goals.   | AAT | UT | ST | UNT | ANT |
| 27. I am capable of learning for myself almost anything I might need to know.                                     | AAT | UT | ST | UNT | ANT |
| 28. I really enjoy tracking down the answer to a question.  | AAT | UT | ST | UNT | ANT |
| 29. I don't like dealing with questions where there is not one right answer.                                      | AAT | UT | ST | UNT | ANT |
| 30. I have a lot of curiosity about things.   | AAT | UT | ST | UNT | ANT |
| 31. I'll be glad when I have finished learning.   | AAT | UT | ST | UNT | ANT |
| 32. I'm not as interested in learning as some other people seem to be.  | AAT | UT | ST | UNT | ANT |
| 33. I don't have any problem with basic study skills.   | AAT | UT | ST | UNT | ANT |

**AAT = Almost Always True of Me.**  
**UT = Usually True of Me**  
**ST = Sometimes True of Me**

**UNT = Usually Not True of Me**  
**ANT = Almost Never True of Me**

---

34. I like to try new things, even if I'm not sure how they will turn out.	AAT	UT	ST	UNT	ANT
35. I don't like it when people who really know what they're doing point out mistakes that I am making.	AAT	UT	ST	UNT	ANT
36. I'm good at thinking of unusual ways to do things.	AAT	UT	ST	UNT	ANT
37. I like to think about the future.	AAT	UT	ST	UNT	ANT
38. I'm better than most people are at trying to find out the things I need to know.	AAT	UT	ST	UNT	ANT
39. I think of problems as challenges, not stop signs.	AAT	UT	ST	UNT	ANT
40. I can make myself do what I think I should.	AAT	UT	ST	UNT	ANT
41. I'm happy with the way I investigate problems.	AAT	UT	ST	UNT	ANT
42. I become a leader in group learning situations.	AAT	UT	ST	UNT	ANT
43. I enjoy discussing ideas.	AAT	UT	ST	UNT	ANT
44. I don't like challenging learning situations.	AAT	UT	ST	UNT	ANT

**AAT = Almost Always True of Me**  
**UT = Usually True of Me**  
**ST = Sometimes True of Me**

**UNT = Usually Not True of Me**  
**ANT = Almost Never True of Me**

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45. I have a strong desire to learn new things.	AAT	UT	ST	UNT	ANT
46. The more I learn, the more exciting the world becomes.	AAT	UT	ST	UNT	ANT
47. Learning is fun.	AAT	UT	ST	UNT	ANT
48. It's better to stick with the learning methods that we know will work instead of always trying new ones.	AAT	UT	ST	UNT	ANT
49. I want to learn more so that I can keep growing as a person.	AAT	UT	ST	UNT	ANT
50. I am responsible for my learning- no one else is.	AAT	UT	ST	UNT	ANT
51. Learning how to learn is important to me.	AAT	UT	ST	UNT	ANT
52. I will never be too old to learn new things.	AAT	UT	ST	UNT	ANT
53. Constant learning is a bore.	AAT	UT	ST	UNT	ANT
54. Learning is a tool for life.	AAT	UT	ST	UNT	ANT
55. I learn several new things on my own each year.	AAT	UT	ST	UNT	ANT
56. Learning doesn't make any difference in my life.	AAT	UT	ST	UNT	ANT

**AAT = Almost Always True of Me**  
**UT = Usually True of Me**  
**ST = Sometimes True of Me**

**UNT = Usually Not True of Me**  
**ANT = Almost Never True of Me**

---

57. I am an effective learner in a classroom  
situation and on my own.

AAT UT ST UNT ANT

58. Learners are leaders.

AAT UT ST UNT ANT

THANK-YOU FOR COMPLETING THE QUESTIONNAIRE

## Appendix E

### Demographic Information

Demographics

Please answer the following questions by ticking the appropriate box.

Gender:                      Male ☐                      Female ☐

Satisfaction with your current financial status:

                                 Satisfied ☐                      Unsatisfied ☐

Your present level of physical activity is:

High: for example, exercise or play sport regularly	<input data-bbox="449 978 550 1079" type="checkbox"/>	Moderate: for example walking, gardening, houeswork	<input data-bbox="831 978 930 1079" type="checkbox"/>	Low: for example, light house- work, watching television.	<input data-bbox="1172 978 1271 1079" type="checkbox"/>
---	---	---	---	--	---

Please indicate your age in number of years .....

Please indicate your prior number of years of formal education .....

YOUR PARTICIPATION IN THIS STUDY IS GREATLY APPRECIATED  
THANKYOU.

## Appendix F

### Letters to Participants

### Sample of letter sent to interstate institutions and organisations



## **INSTRUCTIONS TO PARTICIPANTS**

Dear Participant,

This research project is being conducted to satisfy part-requirement for a Bachelor of Arts, Psychology (Honours ) degree at Edith Cowan University, Joondalup, Perth, W.A. The project is concerned with aspects and predictors of well-being in the elderly.

All information given in the questionnaire is strictly confidential. Each questionnaire has a code on the front. The code refers to the area, institution, club or organization from which your participation is sought, so many questionnaires will be coded with the same code. The results from this research will be published but no names are required so there will be no way that an individual can be identified.

Whilst we appreciate your assistance, you are under no obligation to complete any or all of the questionnaire; you also have the right to withdraw from the study at any time.

The questionnaire consists of questions and statements to do with your well-being. It is hoped that the results from the questionnaire will increase knowledge and understanding of the determinants of well-being.

You are asked to respond to each item by simply ticking the appropriate box or circling the appropriate answer. Detailed instructions are given alongside each set of questions. The questionnaire will take you about 30-40 minutes to complete.

Please follow the instructions carefully. We would appreciate you answering all the questions. Please place your completed questionnaire in the sealed envelope provided before handing it to the office.

Should you have any queries about the questionnaire, please contact the research student on (08) [REDACTED] or Associate Professor Edward Helmes, School of Psychology, Edith Cowan University on (08) 9400 5543.

**Thank-you for your time and co-operation.**

Mrs Deborah Gardner  
School of Psychology Honours Student  
Edith Cowan University

Associate Professor Ed Helmes  
School of Psychology  
Edith Cowan University

✂

---

Please sign below as it is a university requirement should you wish to participate in this project.

- ♦ I freely agree to participate in this study. I am aware that I can withdraw at any time and I have received a copy of this letter. I have no objections to the results being published as group data in a report, so long as I cannot be identified in these results.

Signature only.....Date.....

## **INSTRUCTIONS TO PARTICIPANTS**

Dear Participant,

This research project is being conducted to satisfy part-requirement for a Bachelor of Arts, Psychology (Honours ) degree at Edith Cowan University, Joondalup, Perth, W.A. The project is concerned with aspects and predictors of well-being in the elderly.

All information given in the questionnaire is strictly confidential. Each questionnaire has a code on the front. The code refers to the area, institution, club or organization from which your participation is sought, so many questionnaires will be coded with the same code. The results from this research will be published but no names are required so there will be no way that an individual can be identified.

Whilst we appreciate your assistance, you are under no obligation to complete any or all of the questionnaire; you also have the right to withdraw from the study at any time.

The questionnaire consists of questions and statements to do with your well-being. It is hoped that the results from the questionnaire will increase knowledge and understanding of the determinants of well-being.

You are asked to respond to each item by simply ticking the appropriate box or circling the appropriate answer. Detailed instructions are given alongside each set of questions. The questionnaire will take you about 30-40 minutes to complete.

Please follow the instructions carefully. We would appreciate you answering all the questions. Please return the questionnaire to the researcher by ..... in the enclosed stamped addressed envelope.

Should you have any queries about the questionnaire, please contact the research student on (08) [REDACTED] or Associate Professor Edward Helmes, School of Psychology, Edith Cowan University on (08) 9400 5543.

**Thank-you for your time and co-operation.**

Mrs Deborah Gardner  
School of Psychology Honours Student  
Edith Cowan University

Associate Professor Ed Helmes  
School of Psychology  
Edith Cowan University

✂

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Please sign below as it is a university requirement should you wish to participate in this project.

- ♦ I freely agree to participate in this study. I am aware that I can withdraw at any time and I have received a copy of this letter. I have no objections to the results being published as group data in a report, so long as I cannot be identified in these results.

Signature only.....Date.....

Deborah Gardner  
School of Psychology Honours Student  
Edith Cowan University  
Joondalup, WA 6027

28<sup>th</sup> July 1997

Secretary  
University of the Third Age  
Adelaide SA

Dear Secretary

Further to our telephone conversation on Thursday 24<sup>th</sup> July, thank-you for agreeing to distribute my questionnaire to your students. Your assistance is greatly appreciated.

I am studying determinants of well-being in the elderly. The students at University of the Third Age campuses around Australia have been selected for participation in the study because of their presumed self-motivation.

No written responses are required. Responses required are in the form of ticks, circles or numbers. Each questionnaire includes instructions to the participant and a slip for them to sign. This slip indicates to us that they are aware of the purpose of the study, of their rights and that their participation is voluntary. The signed slip should be left attached to their questionnaire and returned to me along with it. The instruction letter may be cut off and kept by the participants in case they should wish to contact me, or my supervisor, further. A stamped addressed envelope is included for the participants' convenience. They may remove this envelope from their letter and return their questionnaire to me in it. Alternatively, you might prefer to have participants return the questionnaire to you so that you can post them back to me care of Edith Cowan University.

Thank-you, again, for your assistance. Please let your students know that if I can be of any assistance to them in their future studies I would be glad to help.

Yours faithfully

Deborah Gardner  
School of Psychology Honours Student  
Edith Cowan University