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ADULT LEARNING: SELF-RELATED BENEFITS

BY

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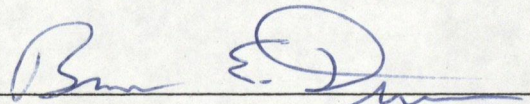
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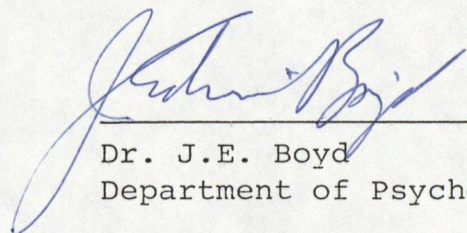
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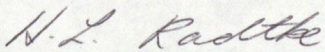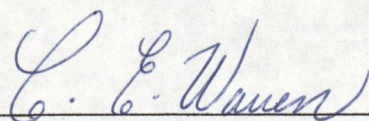
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FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read, and
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submitted by Angela J. Muhlenfeld in partial fulfillment of
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ABSTRACT

Several Canadian studies (Campbell, 1980; Statistics
Canada, 1983, Tough, 1970) indicate a growing interest in
voluntary adult learning. The adult learning literature
suggests that for the typical adult learner, performance,
or application of knowledge and skill, is of primary
concern both in the decision to initiate learning, and in
the decision to continue learning. Among the models that
attempt to account for adults' involvement in this activity
are those that advocate self-related benefits for the
successful adult learner (Cross, 1981; Tough, 1979).
Relatedly, the self-worth theory of achievement motivation
(Covington & Beery, 1976) posits the main determinant of
worth for those engaged in externally evaluated learning
to be self-perceived ability, and speculates that effort,
rather than ability, exerts the primary influence on worth
in contexts where learning is self-evaluated (i.e., non-
credit learning).

The self-worth model (Covington, 1984) was tested with
a sample of 79 voluntary adult participants in non-credit
evening courses. All direct linkages proposed in the model
were supported when course-related self-worth represented
the self-worth construct. However, no significant relation-
ship among model elements emerged when a more global measure
of self-worth was employed. As predicted, the relative
magnitudes of the effects differed when subjects were
voluntary adult learners rather than college students; both
variance and effect coefficient interpretations indicated

the centrality of performance to adult learners' sense of worth. In addition, the results provided support for models advocating self-related benefits for participants in adult learning.

Change in participants' scores on selected dimensions of the Personal Orientation Inventory as a function of course domain (i.e., personal development or skill oriented) was also examined. Results suggest that self-related benefits can be attained by learning a skill of interest as well as by learning which is specifically focussed on various aspects of personal development.

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Introduction

Several Canadian studies indicate the pervasiveness of voluntary adult learning. Campbell (1980) notes the increasing popularity of non-credit courses; he reports that in the past five years enrollment in non-credit courses exceeded that in part-time credit courses by fifty percent. Tough's interviews with 66 adult learners in Ontario revealed that on average each had conducted eight learning projects during the previous year and each had typically devoted 700 to 800 hours of their time to such projects. A learning project is defined by Tough (1979) as a major, highly deliberate learning effort in which at least half of the person's intention is to gain and retain certain knowledge and skill (or to produce some other lasting change in him/herself) and which comprises a series of related episodes which sum to at least seven hours. The mean length of time spent on a project was 90 hours. All but one of the 66 interviewees had conducted at least one learning project, and only 0.7% of such projects were undertaken for credit. Tough estimates that 70% of all adult learning is self-planned. A Statistics Canada Survey (1983) of adult learning focussed exclusively on organized educational activities taken outside of a full-time program, hence self-planned learning was not included. The survey indicated that in 1983, one in every five Canadians, or approximately 3,170,000 adults aged 17 or older participated

in one or more adult learning classes. Most (64%) took only one course, 21% had taken two courses and 15% were involved in at least three courses. On average, these courses were 61 hours in length.

This increased interest in adult learning has been attributed to factors such as the growing adult population, a better educated population, the changing status of women, technological change, and the quest for personal meaning and fulfillment outside the traditional domains of work and family (Peterson, 1980). On a more individual level, Aslanian and Brickell (1980) suggest that adults undertake learning in order to cope with significant changes in major life areas, such as family, career, health, and leisure.

Several models within the literature on adult learning attempt to account for adults' involvement in this activity (Miller, 1967; Rubenson, 1977; Boshier, 1973; Tough, 1979; Cross, 1981). In particular, two of the above-named models propose that involvement in adult learning effects positive changes in participants' self-perceptions (Tough, 1979; Cross, 1981). The implication from these models and related research is that self-related benefits occur largely because the participant, as a result of learning, is able to do something s/he was not able to do before, or because s/he is able to demonstrate increased proficiency at a particular skill or activity. Perhaps the more fully developed approach to the question of why adults voluntarily pursue non-credit learning is Tough's (1979). His model is based

on information revealed by intensive semi-structured interviews with 35 adult learners. These interviews indicated that learning projects were undertaken because the learner anticipated several interrelated outcomes and benefits. Three clusters of benefits that were anticipated and/or experienced by adult learners were identified during the interviews; "self-esteem", "pleasure", and "others". The basic assumption underlying this model is that learners are able to consciously anticipate such benefits. Exploratory interviews substantiated this assumption; anticipated benefits did indeed constitute a significant part of the person's total motivation for learning. Attainment of self-esteem related benefits results in the learner experiencing enhanced self-regard, increased confidence, and perceiving him/herself as a better person. Such benefits are also likely to occur if the person is able to avoid damage to the self-esteem or self-identity as a result of learning. The benefit cluster labelled "pleasure" refers to an increase in pleasure, satisfaction, and generally positive affect. This benefit also refers to the avoidance of some negative feeling via learning. Learning that is undertaken in order that others will regard the person more highly upon awareness of his/her learning endeavours, or in order to avoid reducing others' regard for the learner is categorized in the "others" benefit cluster. Tough proposes that any one of these three benefit clusters can produce the other two. The three benefit clusters are

associated with each of the five activity components of a learning project; engaging in learning activities, retaining knowledge and skill; applying knowledge and skill; gaining material reward; and, gaining symbolic reward.

In an initial attempt to explore the relative weightings of each of these anticipated benefit clusters, a sample of 100 respondents was asked to respond to a question concerning their reasons for undertaking a learning project by distributing ten points among the three clusters of benefits that presumably occur at each of the five stages. Respondents expected most benefits upon application of the newly learned knowledge/skill (33% of 1,000 points); benefits were also expected to accrue simply from engaging in the learning activity (24%), retaining knowledge/skill (19%), material reward (15%), and credit (9%). Of the three benefit clusters, "pleasure" was the most frequently anticipated (50%), with "self-esteem" and "others" receiving 41% and 9% of the total point distribution, respectively (Tough, Abbey & Orton, 1979, in Cross, 1981, p.121). Clearly, as Knowles (1984) acknowledges, the anticipated benefits of pleasure and self-esteem were important in Tough's subjects' motivation to learn.

Cross' (1981) Chain of Response model is somewhat less elaborate. It focusses less on anticipated outcomes and benefits, while concentrating instead on the components involved in the decision to participate. This model is influenced by, and incorporates the work of Miller (1967) on

Force-field Analysis, Rubenson's (1977) Expectancy-Valence
Paradigm, Boshier's (1973) Congruence Model, Tough's (1979)
model of anticipated benefits, and Aslanian and Brickell's
(1980) findings regarding the association of life
transitions with involvement in learning. According to the
model, participation in adult learning is the result of a
series of cumulative influences, each of which is based upon
an evaluation of the potential participant's position in
his/her environment. Actual participation is dependent upon
the following six variable continuum; self-evaluation,
attitudes toward education, the importance of individual
goals and the perceived likelihood of their attainment via
learning, life transitions and the necessity of adapting to
them by way of learning, and, appropriate information which
enables potential learners to identify opportunities and
barriers to participation. This continuum or chain of
responses suggests that forces toward participation are
introduced with intra-individual concerns and gradually
proceed to conditions that are increasingly external to the
individual. Explicit in this model, too, is the assumption
that involvement in adult learning activities leads to
enhanced self-esteem and improved attitudes toward
education, which in turn promote the likelihood of further
participatory activity. Cross, in reference to this link
suggests that, "Ultimately, participation in adult learning
activities changes self-perceptions and attitudes about
education" (1981, p.125).

Thus both Tough's model of anticipated benefits and Cross' Chain of Response Model seem to advocate what could generally be termed "self-related benefits" for the successful adult learner.

Performance

For many adult learners, performance or application of knowledge and skill is of primary concern both in their decision to initiate learning and in their decision to continue learning (Brundage & MacKeracher, 1980; Cross, 1979; Johnstone & Rivera, 1965; Knowles, 1980; 1984; Knox, 1970; 1980; Tough, 1979).

Knox's (1980) proficiency theory emphasizes the pragmatic nature of intentional adult learning. He maintains that interest in enhanced proficiency (the capability to perform satisfactorily given the opportunity to do so) instigates participation and encourages persistence in adult learning. Knox claims that the close correspondence between adults' learning pursuits and their activities beyond the actual learning situation distinguishes the continuing education of adults from the preparatory education of youth. Adults generally are not interested in learning merely to increase knowledge or acquire skill, their learning is more purposeful--they seek to improve proficiency.

Knowles' (1980) androgogical model also stresses the task-centred or problem-centred orientation of adults; they need to know why they should learn about something before

proceeding to learn (Knowles, 1984). As their time perspective changes from one of postponed application to one of immediacy of application, their orientation toward learning shifts accordingly from one of subject-centredness to one of performance centredness (Knowles, 1980). Knowles suggests that adults are motivated to learn only to the extent that learning will help them to act in response to problems and tasks that confront them in everyday life.

Rauch (1981) also emphasizes the "now" orientation of adults. Accordingly, he suggests that one not start an adult class with theory or with chronological history, but with direct "hands on" experience in the subject.

Tough's (1968) study revealed that the typical adult learner generally has more than one reason for beginning and continuing learning. In testing the relevance of each of a set of 13 reasons in beginning and continuing learning he found that on average 5.4 reasons were rated "very strong" or "fairly strong". However, when the relative importance of the 13 reasons was considered, "use for taking action" was by far the most important instigator of learning; 83% of the 35 respondents rated this as a strong reason for initiating learning and 94% stated that this reason strongly influenced them to continue learning. Tough also found that while most respondents did not consider learning necessary for performance of a particular activity at a minimal level, they were not content to perform at this level and thus pursued learning in order to perform more successfully than

they would be able to without learning.

Aslanian and Brickell's (1980) survey indicated that much adult learning is precipitated by a specific event or trigger which marks the occurrence of a significant life transition. They found that 83% of the 744 learners in their study used learning as a way to cope with changes in their lives. More than half (56%) of such changes were career or job related. Other areas of change which commonly required adults to learn involved leisure patterns (13%) and family life (16%). Thus, the majority of adults surveyed were not "learning for the sheer pleasure of learning", rather they were learning what they needed to know in order to successfully accommodate a life transition.

Rossing and Long (1981), using a sample of adult learners, examined the relative contributions of curiosity and perceived value of information to subjects' epistemic motivation. Their results indicated a strong positive relationship between perceived value of information and desire for knowledge, which they suggest substantiates the importance of relevance to adult learning.

In an overview of their main survey findings, Johnstone and Rivera (1965) report that;

> It was quite clear from the results of our study that the major emphasis in adult learning is on the practical rather than the academic; on the applied rather than the theoretical; and on skills rather than on knowledge or information. Subject matter directly useful in the performance of everyday tasks and obligations accounted for the most significant block of the total activities recorded. (p.3)

This theme is also pervasive throughout Cross' (1979)

summary of information gleaned from numerous studies employing survey techniques in an attempt to determine the characteristics, needs, and interests of adult learners, "The overall picture that emerges from the data on adult learning is that adults are pragmatic learners who pursue education for its practical utility to them" (p.116). Also reiterated here is the adult learner's primary interest in learning which culminates in some form of "visible payoff"; participation in how-to-do-it courses far exceeds that in other types of learning activities of a less practical nature.

Thus most adults consider learning to be a waste of their time unless they are able to perceive the content or processes of learning as being of immediate pragmatic relevance to them (Brundage & MacKeracher, 1980). However, this generalization does not preclude the existence of other motivations for learning (e.g., those implied in Tough's (1979) anticipated benefit clusters); not all adult learners exhibit such pragmatism. This is evident in Houle's (1963) case studies of 22 active participants. Based on interviewees' reasons as to why they were so actively involved in learning, Houle (1963) found that they could be grouped into three general learning categories which he termed goal-oriented, activity-oriented and learning-oriented. The goal oriented use learning as a means to attain specific objectives. Each of their learning episodes begins with the identification of a specific need or

interest; the purpose instigates participation. Activity oriented learners seek social contact or symbolic gain in learning, and their selection of a learning activity is based on the amount and kind of social contact it is expected to yield. The learning episodes of the third sub-group, the learning oriented, are also goal directed, but this group differs from the first in the sense that they are constant participants who pursue learning for its own sake.

Analyses of the Education Participation Scale (EPS) (Boshier, 1971) which indicates the extent to which each of 48 reasons influences the respondent to participate, yields factors which essentially parallel Houle's three characteristic orientations toward learning (Boshier, 1971; Morstain & Smart, 1974). Such factor analyses generally reveal a greater complexity in the resulting clusters of reasons than is evident in their counterparts in Houle's typology. For example, Morstain and Smart (1974) identified two goal-oriented factors, Professional Advancement and External Expectations. The items comprising these factors suggest two rather distinct types of goal oriented learners; those who demonstrate initiative and take it upon themselves to learn in order to achieve a personal goal, and those who are advised to do so by some authority such as an employer.

Studies on the motivation of adult learners have used a variety of methods including factor analysis of motivational scales, intensive interviews, and survey questionnaires.

All methods, but particularly the latter two, provide support for the generalization that the typical adult learner places a premium on the attainment of proficiency.

Performance and Self-Evaluative Variables

Research related to performance, both actual and perceived, in a variety of relatively inconsequential tasks, and in tasks reflective of substantive life domains, provides some support for the importance of this variable to self-esteem. Evidence of this relationship seems to stem primarily from studies of adult students in contrived settings, although a few studies have attempted to observe these variables in subjects' natural environments. Performance has been variously defined in terms of self-rating scales specific to the task at hand, objective tests which assess subjects' ability to deal with subject matter pertaining to a particular task, experimental manipulations which are assumed to define subjects' perceptions of their performance, and standardized instruments which reflect global self-evaluations of performance. Likewise, indicators of self-esteem vary from self-rating scales specific to a particular task, self-rating scales designed to assess global self-esteem, standardized inventories which also measure self-esteem generally, to specific self-ratings of perceived task performance.

Several models have as their basis a link between performance and self-evaluation. Sherwood's (1963) model

appears to have general applicability across populations, and Harter's (1978) model pertains specifically to children.

Sherwood's (1963) theory of self-identity and self-actualization conceptualizes the latter in terms of two interrelated subtypes; self-development, the extent to which positively valued perceived capacities have been developed into actual skills and competencies, and utilization, the degree to which the former are typically used. Self-identity and self-actualization are linked with the assumption that positively valued capacities and skills will influence evaluations of their respective self-attributes in the structure of self-identity, and are therefore important determinants of self-evaluation. In an attempt to test some tentative postulates of his theory, data were obtained from participants of T-groups conducted in 20, two hour sessions over a duration of two weeks. A single 11 point scale reflecting subjects' evaluation of their total picture of themselves was employed as a measure of self-evaluation. A correlational analysis yielded weak empirical support for the hypothesis that change in self-actualization (i.e., development and utilization of skills) is accompanied by corresponding change in self-evaluation.

Harter (1978) links performance and self-esteem from a developmental perspective in her revised and extended version of White's (1959) model of effectance motivation. The model outlines the role of social reinforcement following demonstration of competence and independent

mastery attempts as important to the child's developing self-esteem and sense of control, respectively. The evaluative function of social reinforcement is emphasized as being especially important in the development of self-esteem, as the child is virtually dependent upon external feedback for information as to the successfulness of his/her performance in various activities; and, this feedback also provides the child, incidentally, with information as to his/her "goodness" or "worth" etc. The model indicates that a relative balance in favour of positive social reinforcement upon demonstration of competence and independent mastery attempts fosters the development of high self-esteem and an internal perception of control, respectively, and thus enhances effectance motivation; a negative balance has the converse effect. Harter notes that such reinforcement patterns also influence the performance standards and self-reward system that the child him/herself eventually adopts; s/he must receive sufficient external positive reinforcement upon demonstration of competence and independent mastery attempts in order that s/he can gradually internalize these functions and learn to independently evaluate his/her own behaviour.

The relationship between performance and self-evaluation has also been investigated by Terbovic (1977), Boshier (1972), Morrison (1979), and Prager (1983) using adults, Klugerman and Darkenwald (1982) with mentally retarded adults, and Stake et al (1983) with adolescents.

In her investigation of the moderating effects of task salience on the relationship between competence and self-esteem, Terbovic (1977) conceptualized self-esteem as the affective response to self-assessments of one's competencies. Competence in academic or social domains was expected to influence subjects' self-esteem to the degree that these domains were important to them. Actual academic competence was defined as performance on timed anagram and math problems and final grade in an introductory psychology course. Actual social competence was assessed by self and observer ratings of subjects' social skills as they attempted to become acquainted. Following task completion subjects completed several measures including the Rosenberg self-esteem scale (a measure of global self-esteem) and competency ratings specific to the task domains. Consistent with predictions, significant positive correlations between self-esteem and perceived competence were observed in the area (social or academic) of more importance to subjects, and smaller (non-significant) correlations emerged between self-esteem and perceived competence in the area of lesser importance to subjects. Significant correlations between perceived performance and global self-esteem emerged for the entire sample. Similar predictions made for actual task performance were not upheld; neither academically nor socially oriented subjects seemed to base their self-esteem "totally or even mainly" on their actual level of task performance in the area they had pre-experimentally defined

as more salient. Although subjects were informed that the experimental tasks were representative of academic or social success in college, no significant difference was observed in their pre and post experiment self-esteem scores. This suggests that the tasks and subsequent feedback may have been superficial in terms of the intensity of the success/failure experiences they were designed to evoke.

Boshier (1972) also reported consistency in subjects' global self-esteem, measured by Bills' Index of Adjustment and Values, following a more realistic and meaningful failure experience. Students were informed that they would be permitted to write the final exam in their course only if they passed the midterm exam. Experimental and control groups were matched on self-esteem, personality, and IQ measures. Experimental subjects received false failure feedback indicating a midterm grade of 37%. No significant differences existed between experimental and control groups' post-exam global self-esteem scores. Boshier maintains that this consistency in the experimental group's self-esteem scores obtained six weeks prior to, and three weeks after the midterm, represents a defense against the anxiety which is associated with feelings of incompetence. However, it is possible that subjects' perceptions of their performance may have counteracted the experimental manipulation of success/failure.

Consistency in global self-esteem, as measured by semantic differential scales, was also found by Morrison

(1979) in her attempt to establish a causal relationship between variation in performance level (success/failure) and self-esteem. Self-esteem was defined specifically in terms of state self-esteem, "an individual's level of self-regard at a particular time" (p.2), and generally in terms of trait self-esteem, "a more permanent and relatively stable level of self-regard" (p.2). Semantic differential scales of Myself Now and Myself Usually measured the state and trait components of self-esteem, respectively. It was predicted that a single success or failure experience would affect state, but not trait self-esteem. A set of false norms for an anagram task defined subjects' performance on this task as a success or a failure. Those who experienced success had significantly higher mean state self-esteem ratings than those who experienced failure; the two groups did not differ significantly in terms of their trait self-esteem ratings. Morrison suggests that changes in trait self-esteem may be observed following a more intense experience or after a series of success or failure experiences.

Prager's (1983) study compared traditional and returning college students in terms of their educational aspirations and self-esteem. She predicted returning students' self-esteem to be closely associated with their perceived skills. The Skills Rating Inventory was used to assess both the number of generic skills acquired through previous life experience and how well these skills are performed. Form B of the Texas Social Behavior Inventory

was the measure of global self-esteem. Self-esteem and perceived number of skills, but not level of skills, were significantly (positively) correlated for returning students. However, contrary to prediction, returning students appeared to be underestimating the value of skills acquired outside the academic setting, by setting their educational goals on the basis of GPA rather than personal skills assessments. Prager suggests that a program which enhances recognition of, and value placed upon previously acquired skills, may enhance the self-esteem of returning students, encourage them to set educational aspirations which are more reflective of their abilities, and hence maximize their motivation to remain in college.

Klugerman and Darkenwald (1982), using a sample of mentally retarded adults, investigated the effect of self-esteem focussed counselling on growth in subjects' self-esteem and basic living skills competency. They predicted that intervention consisting of basic skills training and counselling directed toward self-esteem growth (experimental group) would be more effective in increasing subjects' self-esteem and living skills than would skills training alone (control group). All subjects were assessed prior to program commencement and upon program conclusion (approximately eight months later) with a simplified self-esteem inventory and instruments appropriate to their selected skills classes. The counselling intervention had no effect on subjects' self-esteem or achievement in any of

the basic living skills components. However, when experimental and control group data were combined, significant gains on all measures were observed. The authors recommend basic living skills training with emphasis on success experiences as a more efficacious means of increasing these subjects' self-esteem than individual counselling directed specifically towards this end. They suggest that as self-esteem is a judgement one forms about oneself, it cannot properly by conceptualized as a skill which can be learned, but rather, "Growth in self-esteem is probably more correctly understood as a function of the accomplishment of tasks or achievements and not simply of reinforcement or praise from others" (p.215).

Stake et al (1983), in their evaluation of an assertiveness training program designed for adolescent girls, used the Performance Self-Esteem Scale (PSES) as an index of self-esteem. This global self-evaluative measure reflects respondents' evaluation of their ability to perform in an achievement setting. Thus Stake et al defined self-esteem in terms of perceived performance. PSES scores indicated the effectiveness of the program in enhancing the self-esteem of those who began training with low self-esteem; negligable improvement was attained by those who began training with high self-esteem, and control scores remained unchanged. Ratings of the reactions of six groups of significant others to subjects' attempts to apply their assertiveness skills were also obtained at follow-up.

Further significant gains in performance self-esteem for the former group over a three month follow-up period were attributed to subjects' successful utilization of their new skills and the generally positive reactions they received from others.

In addition to an emphasis on the association between performance and self-evaluation, several studies also address the relationship between perceived task performance and actual task performance (Cohen and Lefkowitz, 1984; Greenhaus and Badin, 1974; McIntire and Levine, 1984; Shrauger, 1972; Shrauger and Terbovic, 1976). These studies have generally couched perceived competence for a particular task in terms of the phrase "task specific self-esteem" (TSSE). Many also involve an assessment of the trait component of self-esteem, referred to as chronic or general self-esteem, and social self-esteem, a second situational component of self-esteem. Also included here are studies which focus exclusively on the relationship between perceived skills and related task performance (Ekpo-Ufot, 1979; O'Reilly, 1973).

Greenhaus and Badin (1974) measured perceived competence for a specific task, solving anagrams, using a five item scale. Subjects' rated their ability, aptitude, estimated performance, and capability for solving anagrams. This measure was significantly related to actual task performance as measured by the number of anagrams successfully completed in fifteen minutes. However, no

relationship emerged between general self-esteem, measured by the Self-Assurance Scale of the Self Description Inventory, and actual performance or perceived performance. A similar study by Cohen and Lefkowitz (1977), using the same indicator of perceived performance, confirmed the results obtained by Greenhaus and Badin. Again, perceived performance was significantly related to actual performance; general self-esteem, this time measured by Coopersmith's Self-Esteem Inventory, and actual performance were not related.

McIntire and Levine (1984) used two, five point rating scales designed to reflect subjects' self-evaluations of ability and satisfaction with ability and performance in each of twelve academically related tasks. This measure was significantly correlated with the indicator of actual performance, GPA. Differences between the correlations of perceived performance, social self-esteem and chronic self-esteem with actual performance significantly favoured the former; all perceived performance scales also exhibited small but significant correlations with general self-esteem.

Studies of employees' perceptions of their job related skills and supervisors' ratings of their job performance also found significant positive relationships between these variables (Ekpo-Ufot, 1979; O'Reilly, 1973).

Shrauger (1972) explains his hypothesis that general self-esteem rather than specific self-esteem should exhibit a stronger association with perceived performance, using the

rationale that the former is more likely to reflect characteristic patterns of self-description. He investigated the relationship between subjects' general self-esteem (Self Description Inventory), specific self-esteem and their performance on a concept formation task. The measure of specific self-esteem involved a single rating by subjects, following a demonstration trial of the task, indicating what percentage of subjects they thought would outperform them on the task. No direct feedback was available to subjects. Upon completion of the task participants once again estimated what percentage of subjects would outperform them--this rating constituted the measure of perceived performance. Shrauger found that specific self-esteem (pre) was significantly related to actual task performance; high specific self-esteem subjects made fewer errors than low specific self-esteem subjects. General self-esteem was not related to actual performance, but was related to perceived performance (post); high, relative to low general self-esteem subjects estimated that they had performed better when no significant difference in the two groups' performance actually existed. Subjects' assessments of the quality of their performance in both their pre and post ratings were related to the level of their actual performance. The same results for perceived performance and general self-esteem were obtained by Shrauger and Terbovic (1976). Two measures of general self-esteem were employed; the Self-Description Inventory,

and the Rosenberg Self-Esteem Scale. Perceived performance was assessed by subjects' ratings of the estimated number of concept formation items they had answered correctly, the percentage of people they felt would score better than they, and their satisfaction with their performance. Results were analyzed separately for low and high self-esteem subjects. The two groups did not differ significantly in terms of actual performance. However, subjects high in self-esteem perceived their performance more positively than those low in self-esteem, and high relative to low self-esteem subjects expressed significantly greater satisfaction with their performance. The authors suggest that general self-esteem measures reflect consistent differences in perceived performance.

In summary, there is evidence for the importance of performance to self-esteem. Both Tough's (1971) model of anticipated benefits and Cross' (1981) Chain of Response Model suggest a positive relationship between these variables within the specific context of adult learning. Adult learning theories and related motivational studies emphasize the performance-centred concerns of the typical adult learner. Related models and investigations involving adults also provide support for this association in various contexts outside the specific domain of adult learning. In addition, several studies provide support for the existence of a relationship between perceived performance, as operationalized in a variety of ways, and actual performance

in a variety of substantive and inconsequential tasks.

The Self-Worth Model

The self-worth theory of achievement motivation (Covington & Beery, 1976), concentrates primarily on learning within the context of a traditional learning environment in which performance is externally evaluated, and the relative effects of learning related effort, ability and performance cognitions on perceptions of self-worth. The motivational component of this theory is the need to approach success and avoid failure in order to protect self-ascriptions of ability, and hence worth. Although the theory does concede that one's sense of worth and adequacy is heavily dependent upon performance, it also postulates that as ability assumes a major role in success, and inability assumes a like role in the event of failure, self-worth is predominantly linked to perceptions of ability. In support of this position, Covington and Omelich (1984) cite a review of related literature by Brown and Weiner (1984) which concludes that students prefer to have failed because of lack of effort rather than lack of ability (both because low effort provides an explanation for failure other than low ability, and/or "because ability is perceived to be more predictive of the future than effort" (Brown and Weiner, 1984, p.9)) and to have succeeded because of high ability rather than high effort. Although high effort mitigates the instructor punishment and feelings of guilt that accompany not trying, it is also a threat to students

as high effort resulting in failure provides evidence of low ability, which leads to feelings of humiliation and shame (Covington, 1984). The critical role of ability perceptions in students' self-definition is further developed in Covington's (1984) description of the lengths that students will go to in order to protect self-ascriptions of ability and hence worth (excuses, procrastination, unrealistically high standards, low effort). Such tactics serve to protect students' sense of worth by transfering blame for failure, should it occur, from lack of ability to external factors, hence leaving self and others' interpretation of ability uncertain. Self-worth theory, then, emphasizes ability perceptions as the major instigator of achievement behaviour in learning environments which impose external evaluation standards.

The basic principle of the theory, that is, the importance of ability perceptions to performance and worth, is outlined in the main elements of the self-worth model which is depicted in Figure 1. The assumptions underlying these causal linkages imply that, "...several factors influence one's sense of worth and adequacy, including performance level, self-estimates of ability and degree of effort expenditure" (Covington, 1984, p.8). Self-worth is defined as, "...the individual's evaluative appraisal of himself" (Covington & Beery, 1976, p.5). Self-worth is explicitly granted synonymity with the concepts of self-esteem, self-respect and personal competence (1976), it

is also used interchangeably with the term self-regard (Covington, 1984, p.5). According to the relationships hypothesized in the model, the learner's contribution to learning in terms of ability and effort expenditure affects his/her self-worth both directly and indirectly. Direct linkages illustrate that perceptions of effort and ability, in and of themselves, are valued as sources of worth irrespective of their influence upon performance. Indirect linkages indicate that perceptions of effort and ability also affect worth to the extent that they influence the learner's performance. The direct performance-worth linkage implies a dependency of feelings of worth and adequacy on accomplishments regardless of the relative contributions of effort and ability to the latter.

In an exploratory investigation of the relative weightings of ability, effort and performance level on college students' sense of worth, 191 freshmen were asked to select a course they had completed the previous term, and rate, (a) their ability to deal with the subject matter, (b) the amount of effort they had put into the course, and, (c) "...how much self-regard they experienced as students in the course" (Covington, 1984, p.9). Subjects also recorded the grade (i.e. their performance) received in the course they rated. Instructions to select any course undoubtedly introduced an element of bias, the extent of which would depend on whether such instruction was delivered independently of instructions regarding the rating scales.
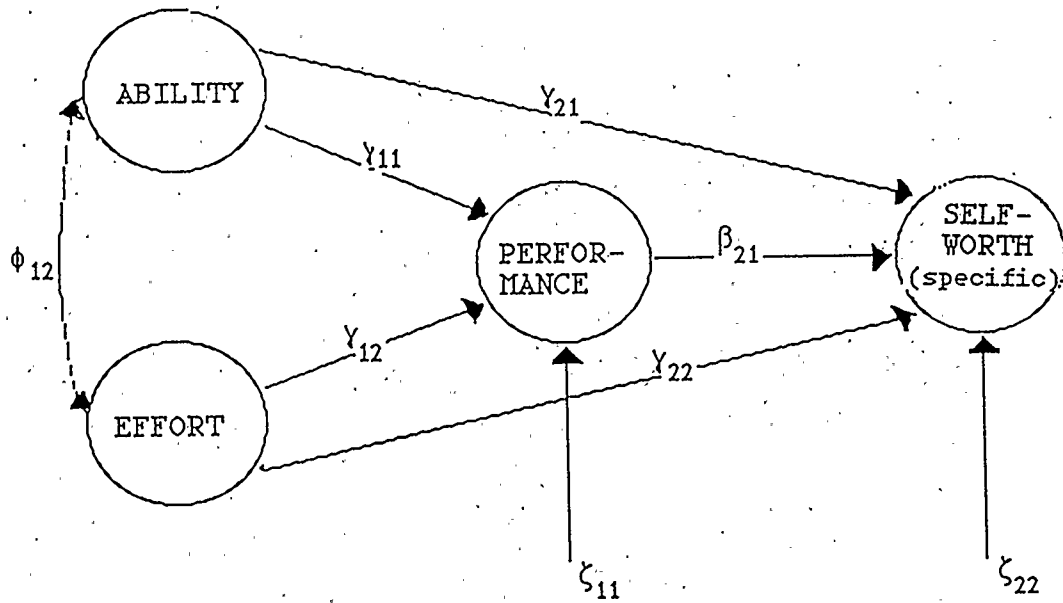
Figure 1
Path Diagram of Model 1

Subsequent path analyses revealed that approximately 50%, 25%, and 20% of the variability in self-worth was accounted for by the direct effects on the latter of ability, performance, and effort, respectively. The indirect effect of effort upon self-worth via its influence on performance was minimal, however, the indirect influence of ability on self-worth accounted for an additional 6% of the variability in the latter. All direct paths were significant with the exception of the path linking effort to performance. Ability, relative to effort and performance, accounted for the largest proportion of self-worth variance; this lends credence to the basic hypothesis that self-worth is linked predominantly to perceptions of ability (Covington, 1984); "ability, at least as college students perceive it, is central to the process of self-definition"..."the perceived value of ability as a major cause of success further enhances its importance" (Covington, 1984, p.9).

However, the relative contribution of ability and effort cognitions to performance and worth appears to favour effort in the case of young children (Covington, 1984). Apparently, children initially equate trying hard and being diligent with worthiness. Childrens' assessment of their performance is based largely on a comparison of their own individual learning efforts, rather than on a comparison of their performance relative to others. As children develop "adult-like" reasoning, they accordingly cease to evaluate their performance by the process of self-comparison but

rather, with the introduction of comparatively based evaluation, adopt the process of social comparison for this purpose.

The effort-performance link, and hence the indirect path from effort to worth, is strengthened in learning contexts which emphasize non-competitive learning strategies such as mastery learning, individual goal setting, contract learning, and cooperative learning (Covington, 1984). Also, effort takes the place of ability as the major source of worth when learning for its own sake is the goal (Covington, 1984) and in situations in which the causal role of ability in success recedes in importance (Brown & Weiner, 1984; Covington, 1984). It is thus expected that effort, relative to ability, should be the greater direct influence on the performance and worth of voluntary adult learners involved in learning endeavours with similarly low levels of risk and threat, such as self-directed learning projects, televised courses, non-credit courses, and competency based learning. These forms of learning are geared towards encouraging the participation of adults with low levels of confidence in their ability to participate successfully (Cross, 1979).

The Present Study

The present study will explore the self-related benefits of adult learning within the framework of the basic self-worth model. It is suggested that the emphasis placed upon the impact of perceived ability on worth for students whose performance is subject to external evaluation may be

minimized or even misplaced within the context of adult learning. Whereas this framework was previously used to demonstrate the primary importance of ability perceptions to college students' sense of worth and adequacy, the present study seeks to demonstrate that self-regard is primarily dependent upon performance for adults learning in an environment where personal criteria for success prevail.

The present research will focus only on the tenability of the basic self-worth model, that is, on the relative effects of effort, ability and performance cognitions on feelings of worth. Thus the current emphasis will not reflect those aspects of the theory that pertain to the causal relations between effort and ability cognitions and their associated failure affects (i.e., guilt and humiliation, respectively) or the strategies used to transfer blame for failure from ability to external factors.

The application of this model to adult learners will be limited in the sense that performance, conceptualized by Covington (1984) as course grade, must necessarily be construed as perceived performance in the present context as no formal public assessment of individual learners occurs. In the case of non-credit learning, "the learner retains control over performance and evaluation is self-evaluation" (Cross, 1979, p.134). Hence subjects' course-related performance does not lend itself to objective measurement. However, evidence from studies reviewed which employ measures of both perceived performance and actual

performance suggests that such self-assessments do indeed
have some basis in actual performance (Cohen and Lefkowitz,
1984; Ekpo-Ufot, 1979; Greenhaus and Badin, 1974; McIntire
and Levine, 1984; O'Reilly, 1973; Shrauger, 1972). Although
these researchers did employ rating scales similar to those
used in the present study, the former were used mainly in
lab settings in which the experimental task was not
presented as assessing central characteristics or as having
strong extrinsic consequences for subjects.

The literature reviewed with respect to adult learning
and the model underlying the self-worth theory of
achievement motivation suggests that although the latter
appears to be generally applicable in the present context,
related predictions regarding the relative strengths of the
linkages must necessarily be revised in order to accommodate
several characteristics specific to voluntary adult
learning.

Predictions regarding the remaining five linkages
postulated by the self-worth model are outlined below in
terms of the expected nature of their relationships in the
context of adult learning.

Tough's (1979) model posits a link between ability, or
retention of knowledge and skill, and the self-related
benefits of "pleasure" and "self-esteem". Tough (1979)
thereby suggests that the benefit of enhanced self-esteem
can occur merely as a result of the learner acquiring or
retaining knowledge that s/he did not previously possess;

that is, "from having it, not from using it, and not from other people being aware of it" (Tough, 1979, p.55). Other research findings, too, indicate that some adults do indeed engage in learning merely to acquire new knowledge without the explicit intent of applying that knowledge, although such learners are a minority (Aslanian & Brickell, 1980; Boshier, 1971; Houle, 1963; Morstain & Smart, 1974;). Thus it appears that in the context of voluntary adult learning too, "the mere perception of high ability can come to imply worthiness, even in the absence of solid accomplishments" (Covington, 1984, p.9). It is therefore postulated that self-estimates of course-related ability will contribute directly to self-regard.

It is in the use of, or demonstrated proficiency with, newly acquired knowledge or skill that the maximal value of the learner's ability and effort can be realized (Covington, 1984)--and adults commonly exhibit a performance-centred orientation toward learning. Therefore, it is assumed that the primary influence of effort and ability on self-regard will not be direct, but indirect, via their respective associations with performance.

In the absence of perceived course utility, most adults are unlikely to initiate learning, "most adults are not much interested in storing knowledge for later use or in locating answers to questions they do not have" (Cross, 1981, p.91). Almost without exception, the literature on adult learning suggests that adults' primary aim in learning is improved

performance. Accordingly, it is proposed that attainment of course-related proficiency, rather than self-estimates of ability per se, will demonstrate the main direct contribution to the adult learner's sense of worth and adequacy.

Finally, and secondary to the test of the basic self-worth model, the present study attempts to generally assess the comparative effects of two broad course domains on participants' scores on the twelve dimensions of the Personal Orientation Inventory, which together comprise a measure of self-actualization. To this end, selected non-credit courses offered by the Calgary Board of Education will be categorized as follows; courses with the self as their central focus, and courses in which the primary concern is not with the self, but rather with the acquisition of a particular skill. Previous research indicates that it is primarily psychoeducational programs that have been subjected to this type of assessment. Related evidence suggests that such programs generally benefit participants by effecting positive change on relevant inventory dimensions. The following studies document the success of several programs in this regard; Roney (1975) and McVicar (1979) with female participants in a Contemporary Woman program, Pitsel (1980) with adults in a Career Decision Making program, Henderson (1976) in an assertiveness training program for women, and Perkins and Kemmerling (1983) in a paraprofessional-led assertiveness

training program for university students. It appears that
no such assessment (i.e. using the Personal Orientation
Inventory) has directly concerned itself with programs that
focus exclusively on the acquisition of particular skills.
Hence, the present study will be extended in that direction.

For the purpose of investigating the applicability of
the basic self-worth model, data from the two course domains
will be combined. Both global and specific ratings of
self-worth will be incorporated in the analysis of this
model. The Self Regard scale of the Personal Orientation
Inventory will be employed as a measure of general
self-worth, and the indicator of specific self-esteem will
be a single rating scale of course-related self-worth. In
order that these analyses can be directly compared with
those reported by Covington (1984), the impact of
course-related effort, ability and performance on both
global and specific self-worth will initially be assessed in
two separate single indicator models. Model 2, which
employs the Self Regard scale of the Personal Orientation
Inventory as a measure of global self-worth, is presented in
Figure 2. Model 1 and Model 2, then, differ only with
respect to the representation of the self-worth construct.
Lisrel rather than path analysis will be employed in order
to analyze a multiple indicator model which will afford an
assessment of the relative reliability of two self-worth
indicators and three performance indicators as measures of
their respective underlying latent variables. The multiple

indicator model is illustrated in Figure 3.
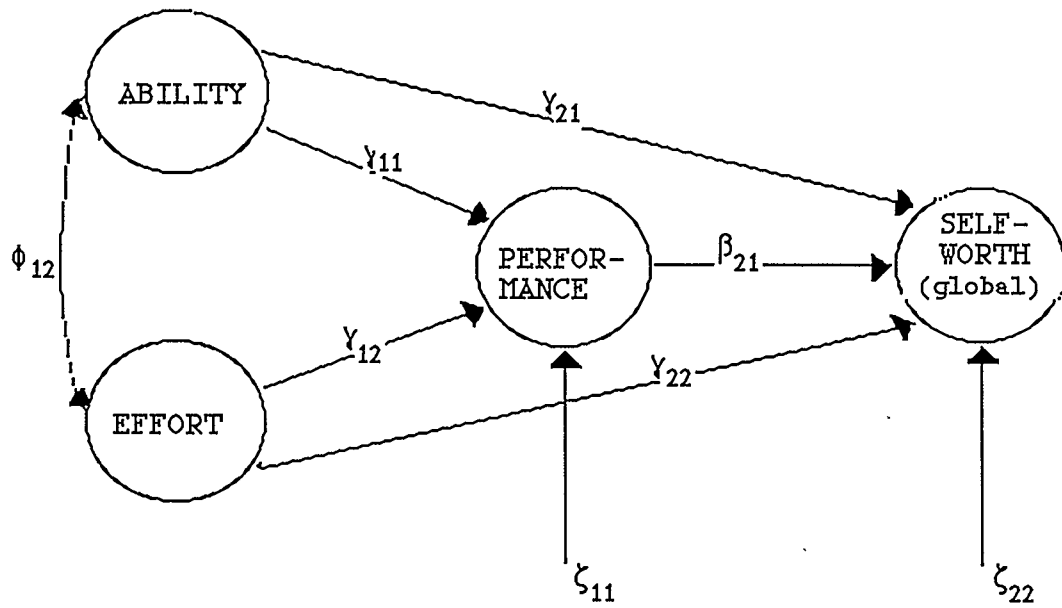
Figure 2

Path Diagram of Model 2
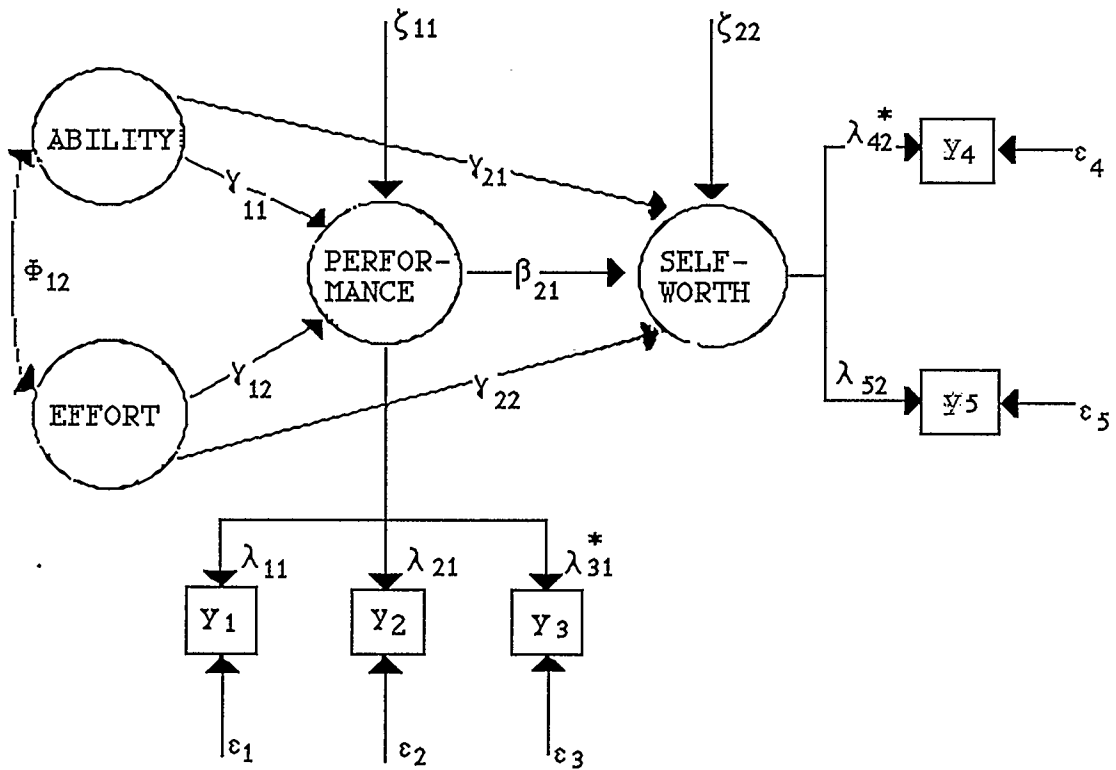
Figure 3

Path Diagram of Model 3

Method

<u>Subjects</u>

Participants were voluntary adult learners enrolled in non-credit evening classes. All participants were solicited with the permission and cooperation of the Calgary Board of Education. One hundred and thirty four enrollees whose names appeared on selected class enrollment lists were initially contacted. Of those, 99 agreed to participate; data for testing the main hypotheses was collected from 79 subjects. Two subjects left more than fifteen items blank on the pre-test Personal Orientation Inventory, (although their Self Regard scales were intact) and hence their inventories were considered invalid (Shostrom, 1974). One subject failed to return the post-test inventory. Data for the secondary analyses was thus available from 76 subjects.

<u>Questionnaires</u>

1. <u>Preliminary Questionnaire</u>

Participants' general background characteristics were obtained by items regarding age group, sex, marital status, years of formal education, years since completion of formal education, and occupational status. Other items were designed to reflect participants' general learning patterns. These included reason for course attendance, number of adult learning courses completed during the previous two years; and number of other adult learning courses presently attended (see Appendix A).

2. Self-rating Scale

This post course measure (see Appendix B) essentially parallels the series of scales utilized by Covington (1984) in order to obtain college students' estimates of their effort, ability and self-regard, as well as their grade (performance) in a self-selected course completed the previous term. Items were designed to directly assess various aspects of course related ability, effort, performance and self-regard by means of nine-point Likert type response scales with verbal anchors at the midpoints and endpoints. A single rating was requested for course-related ability. Effort ratings concerned the number of classes attended and the number of out-of-class exercises completed. Performance ratings included; frequency of application of course-related material, perceived successfulness of the application of course material, and degree of satisfaction with course-related performance. A single rating scale assessed participants' course-related self-esteem.

3. Personal Orientation Inventory (Shostrom, 1964)

Of primary interest is the Self-Regard scale of this instrument. It serves as a general indicator of the construct "self-regard". This scale is composed of 16 items designed to measure affirmation or acceptance of self because of worth or strength. A one week test-retest reliability of .71 was reported for this scale by Klavetter and Mogar (1967) based on a sample of 48 college students.

Ilardi and May (1968) report a reliability coefficient of
.66 based on a 50 week retest interval with 46 nursing
students.

Of secondary import to the present study, are the 12
scales of the inventory which together comprise a measure of
self-actualization. The inventory in its entirety consists
of 150 items, each of which is paired with its opposite in
order to make the intended dichotomy explicit. Klavetter
and Mogar (1967) report the following one week test-retest
reliabilities for the remaining eleven scales: Time
Competence .71, Inner Directedness .77, Self-Actualizing
Values .69, Existentiality .82, Feeling Reactivity .65,
Spontaneity .76, Self Acceptance .77, Nature of Man .68,
Synergy .71, Acceptance of Aggression .52, and Capacity for
Intimate Contact .67. Ilardi and May (1968) report 50 week
test-retest coefficients for the eleven scales as follows:
Time Competence .55, Inner Directedness .71, Self
Actualizing Values .60, Existentiality .74, Feeling
Reactivity .32, Spontaneity .51, Self Acceptance .71, Nature
of Man .49, Synergy .40, Acceptance of Aggression .64, and
Capacity for Intimate Contact .58. Numerous studies confirm
the validity of this inventory for research purposes (e.g.
Fox, Knapp and Michael, 1965; Graff et al, 1970; Knapp,
1965; Knapp and Comrey, 1973; McClain, 1970; Shostrom, 1964)
and studies generally support the claim of Braun and LeFara
(1969) that the inventory is highly resistant to faking when
completed by subjects who are unfamiliar with the concept of

self-actualization.

Fellenz (1971) established a relationship between the Personal Orientation Inventory dimensions and adult learning; as well he demonstrated the applicability of this instrument within the adult learning context. His review of literature related to adult learning indicates that either implicitly or explicitly adult educators have advocated the relevance of each inventory dimension to adult learning. Other studies have employed this inventory for the purposes of assessing the effectiveness of various psychoeducational programs. Evidence indicates that such programs generally benefit participants as indicated by significant increases in relevant scale scores (e.g. Henderson, 1976; McVicar, 1979; Perkins & Kemmerling, 1983; Pitsel, 1980; Roney, 1975).

Procedure

Permission to contact participants was obtained first by securing general approval from the Calgary Board of Education; the course coordinators were then approached, and finally, individual instructors were contacted. The final selection of courses was determined by various combinations of approval and disapproval at different levels in this hierarchy. The eight courses selected on this basis comprised two distinct domains: (a) courses focussed exclusively on personal development, e.g., assertiveness training, and (b) courses devoted to the acquisition of a particular skill, e.g., computer programming. Each of the

selected courses delivered a total of 20 hours of instruction over eight or ten weeks; classes met once a week. In order to ensure the anonymity of individual instructors, the actual titles of selected courses will not be revealed.

Initial contact with course enrollees was made via a letter which briefly introduced the study and informed them of an ensuing telephone call regarding the possibility of their participation (see Appendix C). Each enrollee was personally contacted by telephone shortly after the estimated time of receipt of the letter. At this time further procedural details were outlined, and enrollees were once again assured that all information provided for the purposes of the study would remain confidential. As well, potential subjects were explicitly granted an opportunity to voice questions or concerns. Those who expressed an interest in taking part were advised to arrive at the location of their course one half hour prior to commencement of the first session. At this time they received a consent form, the preliminary questionnaire, and the Personal Orientation Inventory. Up to fifteen minutes of class time was donated by instructors in order that subjects might complete these measures before their first session began.

The week prior to the final class was selected for completion of the post-test inventory (i.e. rather than completion during the final class) as several researchers have suggested that a general atmosphere of euphoria, or

"the rosy glow of termination", which has been observed during final program sessions, may inflate scores on post-test measures (MacKeen, 1973; Pitsel, 1980). This procedure allowed the investigator to personally deliver and collect materials, hence the time, expense and non-compliance associated with mass mailing at this stage was avoided. Immediately prior to the second-last class session, all subjects received packages containing the Personal Orientation Inventory and a cover letter outlining instructions for inventory completion and return. At this time subjects were informed that completed inventories would be collected the following week, just prior to commencement of the final class. Inventories were mailed to those subjects who had completed the pre-course inventory, but were absent, or late in arriving at the time of the second inventory distribution.

Four weeks after their classes had terminated, a package containing the follow-up self-rating scale and the Personal Orientation Inventory was mailed to each subject. A cover letter outlining instructions for completion and return of this material was included and a stamped addressed envelope was provided for its return.

The above data collection procedures were necessarily adopted in order to minimize both the class time utilized for inventory completion and disruption to subjects' habitual routine. It was anticipated that such considerations might favourably influence subjects'

willingness to participate. As well, a concerted effort was made by the investigator to establish personal contact with each participant at pre and post testing times in order to elicit maximal participation on these occasions and at follow-up.

Results

Subject Characteristics

The information provided by participants in the pre-course questionnaire is compiled in Table 1. More than two-thirds (67.1%) of the voluntary adult learners sampled were female. Although there was a large age range, the younger participants formed a definite majority; 83.5% were between the ages of 20 and 39. Married and single participants were almost equally represented. More than three-quarters (78.5%) of the participants were employed full-time outside the home. Nevertheless, over the duration of the study almost half of the sample were concurrently enrolled in one or more additional courses. The group as a whole was well educated; 64.7% had some post-secondary education. However, more than five years had passed since most participants had attended a formal educational institution. Finally, the majority of those sampled were not newcomers to adult learning; 58.2% had taken one or more courses during the previous two years.

Appendix D1 contains the correlation matrix for the demographic variables and each of the model elements. Although these correlations were generally small, several trends were implied by the larger correlations. The more educated participants contributed less effort, experienced less course-related self-esteem, yet rated their ability higher than participants with less formal schooling. Employed participants contributed less effort than did those

Table 1

Frequencies for Subject Characteristics

Variable	n	%
Age		
20-29	29	36.7
30-39	37	46.8
40-49	10	12.7
50-59	2	2.5
60-69	0	0
70 or over	1	1.3
Sex		
Male	26	32.9
Female	53	67.1
Marital Status		
Single	33	41.8
Married	35	44.3
Separated	3	3.8
Divorced	6	7.6
Widowed	1	1.3
Other	1	1.3
Employment Status		
Employed full-time	62	78.5
Employed part-time	1	1.3
Not employed outside home	12	15.2
Unemployed	2	2.5
Retired	1	1.3
Student	1	1.3
Concurrently enrolled in other courses		
Yes	36	45.6
No	40	50.6
No reply	3	3.8

Table 1 (continued)

Variable	n	%
Years of Schooling Completed		
10	1	1.3
11	6	7.6
12	21	26.6
13	4	5.1
14	13	16.5
15	4	5.1
16	20	25.3
17	4	5.1
18	1	1.3
19	2	2.5
20	3	3.8
Years Since Schooling Completed		
0-5	30	37.9
6-11	19	24.1
12-17	14	17.7
18-23	6	7.6
24-29	3	3.8
30-35	2	2.5
36-41	1	1.3
42-47	1	1.3
no reply	3	3.8
Courses Completed in Past Two Years		
0	33	41.8
1	14	17.7
2	10	12.7
3	11	13.9
4	3	3.8
5	3	3.8
6	3	3.8
>6	2	2.6

who were not employed. Finally, those who had completed more courses during the previous two years were those most likely to be enrolled in more than one course over the duration of the study. No significant correlations emerged between Personal Orientation Inventory scales and number of courses taken in the previous two years.

Appendix D2 contains the eighth order partial correlation matrix for model components with all demographic variables controlled for simultaneously. The magnitudes of the partial correlations suggest that relationships among model elements were generally fairly stable when the demographic variables were accounted for. However, there was a tendency for the partial correlations to increase relative to their respective zero-order correlations. In particular, the partial correlation between perceived ability and course-related self-esteem increased. As well, the correlation between effort and perceived ability more than doubled when all demographic variables were partialled out. An examination of the correlation matrices in which each demographic variable was individually controlled, revealed that years of schooling was the suppressor variable that influenced the relationship between perceived ability and other model elements.

Single Indicator Models

Lisrel VI (Joreskog & Sorbom, 1985) was initially used to test two single indicator models comparable to the basic self-worth model posited by Covington (1984). In the first

model, ratings of course-related self-esteem obtained at follow-up represented the self-worth construct. As pre, post, and follow-up scores on the Self Regard scale were obtained, pre follow-up difference scores were employed as the inventory counterpart to the single nine-point rating of course-related worth. These difference scores constituted the measure of self-worth in the second model. Thus in structural terms, the only difference between the two single indicator models is in the representation of the self-worth construct. The small number of subjects in each of the two course domains necessitated combining the groups' ratings on model elements for the Lisrel analysis. Significant differences in the two groups' ratings of model components emerged only on the Self Regard scale; the mean pre follow-up change attained by the personal development group exceeded that attained by the skill group, and the pre follow-up changes of the former group were more variable.

According to Joreskog and Sorbom (1985), assessment of the overall fit of a model to the data may be determined by an examination of three measures; the overall chi-square statistic and its associated degrees of freedom, the goodness of fit index, and the root mean square residual. A chi-square value which is large relative to its degrees of freedom is indicative of poor fit, and a chi-square value which is small in comparison to its degrees of freedom suggests good fit. The goodness of fit index, a measure of the variances and covariances accounted for by the model,

is, unlike chi-square, independent of both sample size and departures from normality. The root mean square residual is an index of the average residual variances and covariances; it is interpreted relative to the observed correlation matrix.

Joreskog and Sorbom (1985) emphasize that a good fit of the overall model to the data may occur simultaneously with one or more unimpressive multiple correlation coefficients, and vice versa--large values of R^2 may coincide with a poorly fitting model. Inspection of normalized residuals and/or the modification indices are a means of pinpointing those parts of the model which contribute to a lack of fit. Consideration of the above indices will accompany the assessment and revision of the following models. The correlations used for analysis of the single and multiple indicator models appear in Table 2. Correlations for effort and performance were based on composite scores, computed as the average rating over their two and three scales, respectively.

Model 1

Model 1 in its original form was just-identified and therefore not testable (see Figure 1). Such a model has limited usefulness as it indicates only the relative importance of effort and ability as predictors of performance and self-worth. The t-values associated with the just identified model revealed that the direct effects associated with each parameter were significant. Thus in

Table 2

Correlation Matrix for Model Components

	1	2	3	4	5	6	7	8
1	1.00							
2	.83	1.00						
3	.84	.72	1.00					
4	.88	.74	.81	1.00				
5	.59	.49	.49	.58	1.00			
6	.09	.04	.14	.11	.18	1.00		
7	.33	.28	.29	.39	.38	.17	1.00	
8	.45	.44	.32.	.35	.43	.03	.12	1.00

1: Performance

2: Frequency

3: Success

4: Satisfaction

5: Course-related self-esteem

6: Self Regard Scale

7: Ability

8: Effort

in order to overcome the limitations of a just identified

model and keep the significant relationships observed

therein intact, a causal link was added between ability and

effort (see Figure 4). The corresponding parameter was set

to zero, rendering the model overidentified and hence

testable. Differences in the actual paramater estimates

produced by the just-identified (Model 1) and

over-identified (Model 1a) models were minimal. Analysis of

the latter model suggested that it fit the data moderately

well, χ^2(1)=1.06, p >.30. The corresponding goodness of fit

index (.993) indicated that the model adequately accounted

for the observed variances and covariances. The root mean

square residual (.048) suggests that the residuals were on

average relatively small, although this measure is somewhat

inflated as the zero order correlation between ability and

effort is necessarily incorporated into the residual matrix.

Table 3 illustrates the relatively low standard errors,

and as indicated by t-values which exceed 2, the significant

effects associated with each of the estimated coefficients.

However, the large residual paths are indicative of sizeable

outside influences on the endogenous variables. Model 1a

accounted for 26% of the variablity in performance and 41%

of the variability in self-worth. Table 4 shows the direct

and indirect effects associated with each parameter.

Performance was by far the most substantial direct

contributor to self-worth. The direct effects of effort and

ability on self-worth were of equal magnitude. Effort was
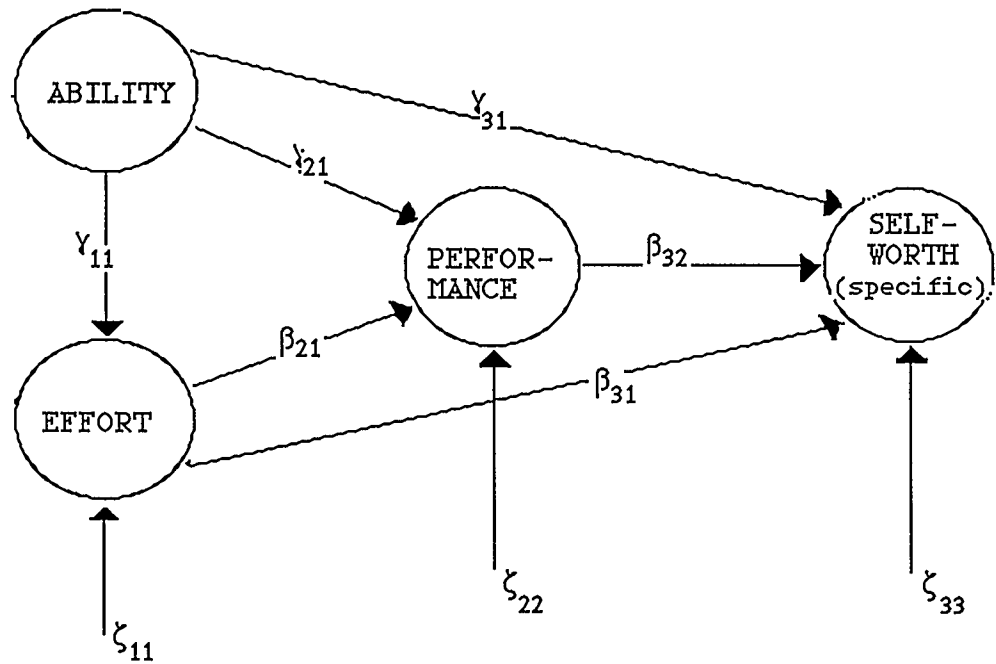
Figure 4

Path Diagram of Model 1a

Table 3

Structural Estimates for Model 1a with Standard Errors
and T Values

Parameter	M.L. Estimate	Standard Error	T Value
γ_{21}	.28	.10	2.89
γ_{31}	.21	.09	2.29
β_{21}	.41	.10	4.26
β_{31}	.21	.10	2.23
β_{32}	.43	.10	4.24
ζ_{11}	1.00	.12	6.20
ζ_{22}	.72	.12	6.20
ζ_{33}	.57	.09	6.20

Table 4

Total and Indirect Effects for Model 1a

Parameter	Total Effect	Indirect Effect
γ_{21}	.28	–
γ_{31}	.33	.12
β_{21}	.41	–
β_{31}	.39	.18
β_{32}	.43	–

the main indirect influence on self-worth and the main direct influence on performance. Although the effects of both effort and ability on self-worth were largely direct, the indirect influences of effort on self-worth were larger and more similar in magnitude than were their ability counterparts.

Model 2

Difference scores on the Self Regard scale of the Personal Orientation Inventory, a more global or general measure of self-worth, were used to represent the self-worth construct in Model 2. Once again, the initial model was structurally equivalent to Covington's self-worth model and therefore was not testable (see Figure 2). T-values for the initial just-identified model indicated that none of the direct effects on self-worth were significant, thus in order to render the model over-identified and hence testable, the path corresponding to the lowest t-value (that between effort and self-worth) was fixed at zero (see Figure 5). Each measure of overall fit indicated that the revised model fit the data very well;

$\chi^2(1) = 0$, $p > .99$, goodness of fit index=1.0, mean square residual=0. However, the t-ratios and effect coefficients for the overidentified model were not impressive.

The standard errors presented in Table 5 were larger than those for Model 1a, and as in the just-identified model, only the t values associated with the direct links of effort and ability to performance were significant. The
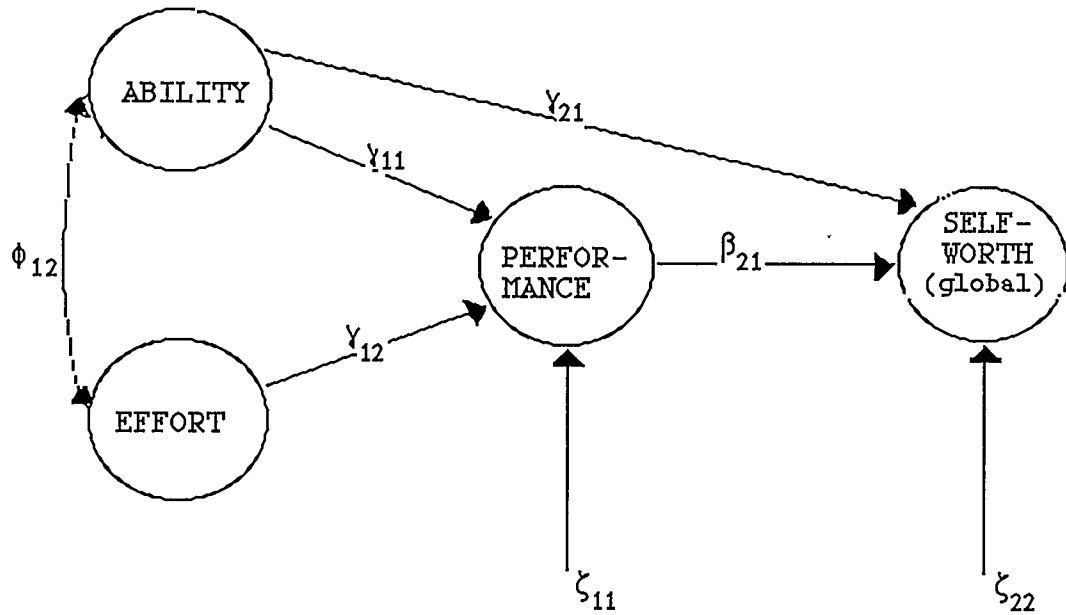
Figure 5

Path Diagram of Model 2a

Table 5

Structural Estimates for Model 2a with Standard Errors and
T Values

Parameter	M.L. Estimate	Standard Error	T Value
γ_{11}	.28	.10	2.86
γ_{12}	.41	.10	4.20
γ_{21}	.16	.12	1.32
γ_{22}	0	—	—
β_{21}	.03	.12	.29
ζ_{11}	.72	.11	6.16
ζ_{22}	.97	.16	6.16

residual path attached to self-worth was exceedingly large; only 3% of the variance in self-worth was explained by Model 2, a substantial decrease from that accounted for by Model 1.

The direct and indirect effects for Model 2 are given in Table 6. The direct effect of performance on self-worth was negligable; the direct effect of ability on self-worth was substantially less than its counterpart in Model 1a. Although the results for the just-identified model indicated that the total effect of ability on self-worth was by far the largest of the three, neither effort, ability nor performance were significantly related to self-worth as measured by change scores on the Self Regard scale. Model 2, then, is a well fitting model which accounts for very little of the variance in the main dependent variable.

The use of Self Regard change scores to represent the self-worth construct resulted in a quite different, and much less satisfactory solution than that obtained using the single rating of course-related self-worth. All effect coefficients in Model 2a, both direct and indirect, were smaller than those associated with Model 1a. Accordingly the residual variance for self-worth was considerably larger than the comparable residual path in Model 1a.

Multiple Indicator Model

A third model, Model 3, is essentially a combined version of the previous two single indicator models in which multiple indicators were used to represent the two latent

Table 6

Total and Indirect Effects for Model 2a

Parameter	Total Effect	Indirect Effect
γ_{11}	.28	—
γ_{12}	.41	—
γ_{21}	.17	.01
γ_{22}	.01	.01
β_{21}	.03	—

dependent variables, performance and self-worth. In Model 3 both Self Regard scale scores and single scale ratings were incorporated as indicators of one underlying latent variable, self-worth. The three performance rating scales, previously combined to form a composite score, were also defined as three separate indicators of performance. Figure 3 depicts the multiple indicator version of the self-worth model.

The squared multiple correlation coefficients shown in Table 7 indicate the reliability of each dependent measurement variable. Consistent with the results of the single indicator models, the rating of course-related self-worth was the more reliable of the two self-worth indicators. Of the three performance indicators, satisfaction was the most reliable, and frequency the least reliable. The related coefficient of determination (COD) is a generalized measure of reliability for the whole measurement model. It assesses the combined adequacy of the measurement variables as indicators of their respective underlying constructs. The COD value of .984 suggests that the measurement model was adequate in this respect. Table 7 also shows the standard errors and t-values for the measurement variables. The standard errors corresponding to the performance indicators were half the size of that associated with the Self Regard scale; accordingly the t-values for the performance indicators were highly significant while the t-value for the Self Regard

Table 7

Measurement Estimates for Model 3 with Standard Errors,

T Values and Squared Multiple Correlations

Parameter	M.L. Estimate	Standard Error	T Value	R^2
λ_{11}	.87	.09	9.55	.66
λ_{21}	.94	.09	10.96	.77
λ_{31}	1.00	—	—	.86
λ_{42}	1.00	—	—	.87
λ_{52}	.21	.17	1.22	.04

scale failed to reach significance.

The indices of overall fit for the structural equation model indicated that the fit of the model to the data had improved relative to the single indicator model, Model 1a; $\chi^2(10) = 10.47$, $p > .40$. The root mean square residual (.037) indicated a corresponding decrease in the average size of the residuals. Table 8 indicates that the standard errors associated with the structural model were similar in magnitude to those for Model 1a. However, the standard error associated with the self-worth construct increased substantially. All direct effects were significant with a single exception; the t-value reflecting the direct effect of ability on self-worth was only marginally significant. Again, performance was the largest direct influence on worth. Effort relative to ability had the stronger direct effect on both dependent variables. The total and indirect effects for each parameter are given in Table 9. The direct influences of ability and effort on worth were more than twice the value of their respective indirect effects, although the difference between the indirect effects of effort and ability on worth was negligable. Relative to Model 1a, the multiple indicator model explained an additional 2% of the variance in performance, and an additional 9% of the self-worth variance.

Personal Development vs. Skill Courses

T-tests indicated that there were no significant differences between subjects who were taking other course(s)

Table 8

Structural Estimates for Model 3 with Standard Errors

and T Values

Parameter	M.L. Estimate	Standard Error	T Value
γ_{11}	.31	.10	3.27
γ_{12}	.34	.10	3.52
γ_{21}	.18	.10	1.94
γ_{22}	.23	.10	2.40
β_{21}	.47	.12	3.98
ζ_{11}	.62	.12	5.04
ζ_{22}	.44	.55	0.80

Table 9

Total and Indirect Effects for Structural Model associated
with Model 3

Parameter	Total Effect	Indirect Effect
γ_{11}	.31	—
γ_{12}	.34	—
γ_{21}	.33	.15
γ_{22}	.39	.16
β_{21}	.47	—

concurrently and those who were not, on any of the twelve Personal Orientation Inventory scales at pre, post, or follow-up. T-tests conducted on the personal development and skill groups' pre-test inventory scores revealed that the skill group means exceeded those of the personal development group on all twelve scales; significant differences in favour of the skill group appeared on nine of the twelve scales, excluding Time Competence, Nature of Man, and Synergy.

In order to determine whether further differences between the two groups were merely a function of initial differences at pre-test, a multivariate repeated measures analysis of variance for multiple dependent variables was conducted using the BMDP4V program (Dixon, 1983). Initially, five scales which appeared to be particularly relevant in terms of distinguishing the two groups were selected for analysis. These scales were: Inner Directedness, Spontaneity, Feeling Reactivity, Self Regard, and Self Acceptance. A multivariate repeated measures analysis of variance was then conducted on all twelve scales simultaneously in order to identify any temporal or group trends. A descriptive summary of each of the Personal Orientation scales is provided in Table 10. Analysis of the initial five scales resulted in significant multivariate F's for the main effects of Group, $F(5,70)=2.84$, $p<.05$, Time, $F(10,65)=8.11$, $p<.01$, and the Group by Time interaction, $F(10,65)=2.99$, $p<0.05$, as shown in Table 11.

Table 10

Symbols and Description of POI Scales

	Symbol	Scale	Measures...
1.	Tc	Time Competence	Ability to live primarily in the present rather than in the past or future.
2.	I	Inner Directedness	Independence, self-supportiveness vs. dependence, needing support of others' views.

Valuing

	Symbol	Scale	Measures...
3.	SAV	Self-Actualizing Values	Acceptance vs. rejection of values of self-actualizing people.
4.	Ex	Existentiality	Flexible vs. rigid application of values.

Feeling

	Symbol	Scale	Measures...
5.	Fr	Feeling Reactivity	Sensitivity vs. insensitivity to own needs and feelings.
6.	S	Spontaneity	Free expression of feelings behaviourally vs. fear of expressing feelings behaviourally.

Self-Perception

	Symbol	Scale	Measures...
7.	Sr	Self Regard	Ability to like oneself because of one's strength as a person.
8.	Sa	Self Acceptance	Acceptance/unacceptance of self in spite of weaknesses.

Table 10 (Continued)

Symbol		Scale	Measures...

Synergistic Awareness

9.	Nc	Nature of Man, Constructive	Perception of man as essentially good/evil.
10.	Sy	Synergy	Perception of opposites in life as meaningfully related vs.antagonistic.

Interpersonal Sensitivity

11.	A	Acceptance of Aggression	Acceptance vs. denial of feelings of anger or aggression.
12.	C	Capacity for Intimate Contact	Ability vs. difficulty with warm interpersonal relationships.

Table 11

Multivariate Repeated Measures Analysis of Variance for
Group, Time, and Group by Time.

Source	Scale	SS	df	MS	MF	UF
Group (G)	All		5,70		2.84*	
	I	3324.81	1,74	3324.81		9.02**
	Fr	111.76	1,74	111.76		4.75*
	S	77.70	1,74	77.70		3.86
	Sr	215.20	1,74	215.20		13.30**
	Sa	239.82	1,74	239.82		8.67**
Time (T)	All		10,65		8.11**	
	I	1604.28	2,148	802.14		27.41**
	Fr	114.58	2,148	57.29		16.85**
	S	55.68	2,148	27.84		10.68**
	Sr	73.84	2,148	39.42		17.34**
	Sa	125.79	2,148	62.90		17.99**
G X T	All		10,65		2.29*	
	I	104.91	2,148	52.45		1.79
	Fr	24.37	2,148	12.19		3.58*
	S	2.84	2,148	1.42		0.54
	Sr	38.85	2,148	19.43		8.55**
	Sa	4.04	2,148	2.02		0.58

* $p < 0.05$
** $p < 0.01$

The significance level adopted for the multivariate F's (.05) was divided by the number of univariate F tests to be performed (five), resulting in the requirement of a per comparison error rate of 0.01 for the univariate F tests associated with the main effects of Group and Time. Table 12 presents the cell means on the five scales for both personal development and skill groups at each of the three testing times.

Examination of the univariate F's revealed significant differences between the two groups in Inner Directedness, $F(1,74)=9.02$, $p<.01$, Self Regard, $F(1,74)=13.30$, $p<.01$, and Self Acceptance, $F(1,74)=8.67$, $p<.01$. In each case the skill group means exceeded those of the personal development group. This trend was apparent for all twelve scales.

Significant differences over the three testing times were observed for each of the five scales; Inner Directedness, $F(2,148)=27.41$, $p<.01$, Feeling Reactivity, $F(2,148)=16.85$, $p<.01$, Spontaneity, $F(2,148)=10.68$, $p<.01$, Self Regard, $F(2,148)=17.34$, $p<.01$, and Self Acceptance, $F(2,148)=17.99$, $p<.01$. As it is generally not meaningful to interpret main effects for those variables involved in a significant interaction (Pedhazur, 1982) only the main effects for Inner Directedness, Spontaneity and Self Acceptance will be discussed here. Tukey's Honestly Significant Difference tests were conducted on the pre, post, and follow-up group means for each of these three scales. In each case the pre-test means were significantly

Table 12

Cell Means for Personal Orientation Scales

	Pre	Post	Follow-up
Inner Directedness			
G_S	84.29	87.61	89.02
G_P	74.74	80.57	82.63
Feeling Reactivity			
G_S	15.32	16.12	16.15
G_P	13.00	15.03	15.34
Spontaneity			
G_S	11.85	12.54	12.78
G_P	10.37	11.57	11.71
Self Regard			
G_S	12.88	13.27	13.24
G_P	9.77	11.74	12.03
Self Acceptance			
G_S	15.71	16.78	17.17
G_P	13.34	14.69	15.46

G_S: skill group

G_P: personal development group

lower than the means at post-test and follow-up, but differences between the latter two means did not reach significance. Tukey tests following the multivariate analysis of all twelve inventory scales revealed significant pre follow-up increases on five of the remaining seven scales, the exceptions were Nature of Man and Synergy.

A significant Group by Time interaction emerged for the Feeling Reactivity $F(2,148)=3.58$, $p<.05$, and Self Regard $F(2,148)=8.55$, $p<.01$, scales. The overall significance level of 0.05 was divided by the total number of simple main effects to be performed (five), resulting in a significance level of 0.01 for each simple main effect. Table 13 presents simple main effects for the Feeling Reactivity scale. Simple main effects tests for the between groups factor, Group, indicated that the personal development and skill groups' mean Feeling Reactivity scores differed significantly in favour of the skill group at pre-test. Simple main effects for the within groups factor, Time, revealed that only the personal development group's mean Feeling Reactivity scores differed significantly across the three testing times. Tukey's Honestly Significant Difference tests indicated that the personal development group's pre-post and pre-follow-up means differed significantly in favour of the later means, but their post and follow-up means were not significantly different.

Similar results were obtained for the Self Regard scale (see Table 14). Simple main effects for Group at the three

Table 13

Simple Main Effects for Feeling Reactivity Scale

Source	SS	df	MS	F
G at Pre	101.37	1	101.37	9.05**
G at Post	22.57	1	22.57	2.30
G at F-U	12.19	1	12.19	1.31
T at G_S	18.26	2	9.13	2.69
T at G_P	113.20	2	56.60	16.65**

** $p < 0.01$

G_S: skill group
G_P: personal development group

Table 14

Simple Main Effects for Self Regard Scale

Source	SS	df	MS	F
G at Pre	182.23	1	182.23	23.89**
G at Post	43.94	1	43.94	6.55*
G at F-U	27.89	1	27.89	4.37*
T at G_S	3.92	2	1.96	0.86
T at G_P	105.73	2	52.87	23.26**

 * p < 0.05
** p < 0.01

G_S: skill group
G_P: personal development group

testing times indicated a significant difference at pre-test in favour of the skill group. However, the difference between the two groups at post-test was only marginally significant. Simple main effects for Time indicated that only the personal development group means differed significantly over time. Tukey tests again revealed that both post and follow-up Self Regard means were significantly larger than the pre-test mean, and no significant differences emerged between the personal development group's Self Regard means at post and follow-up testing times.

In summary, the main effects indicate that in general the skill group evidenced greater Inner Directedness and Self Acceptance than did the personal development group. Over the duration of the study both groups generally experienced positive change in Inner Directedness, Spontaneity, and Self Acceptance. Although a non-significant trend towards further increases on these three scales between post and follow-up testing was evident for both groups, the positive change observed for the groups over the duration of their courses surpassed that attained within the four weeks following course termination. On the remaining two scales, Feeling Reactivity and Self Regard, the two groups differed significantly at pre-test only, in favour of the skill group. Although an increase in Feeling Reactivity and Self Regard was attained by both groups over the duration of their courses, only the personal development course participants exhibited significant positive change on these scales.

Discussion

The self-worth theory of achievement motivation posits that self-perceived ability is the main determinant of worth for students engaged in externally evaluated learning, and that effort, rather than ability should exert the primary influence on worth in the context of self evaluated learning. The present study, in accordance with adult learning theories, found that performance was central to worth for voluntary adult learners when worth was construed specifically, in terms of course-related self-worth. However, no relationship between these two variables emerged when a more global measure of self-worth was employed.

The results of a comparable study of college students (Covington, 1984) are discussed in terms of the direct and indirect proportions of self-worth variance accounted for by model elements. Thus comparisons of the present findings with those of Covington (1984) will be based upon a variance approach. However, discussion of hypotheses specific to the present study will be based upon the more usual interpretation of path analytic models, i.e., in terms of effect coefficients. Effect coefficients represent the expected change in the standardized dependent variable that corresponds to a unit change in the standardized independent variable while controlling for other independent variables in the regression equation (Asher, 1976). Conclusions regarding the present predictions differ according to which

of the statistical indices (i.e. proportion of variance or effect coefficients) is selected for interpretation. The major difference between the two approaches is in their emphasis on the direct versus indirect proportions of self-worth variance accounted for by effort and ability. The variance approach reflects an emphasis on the indirect influences of effort and ability, while interpretation of effect coefficients emphasizes the direct effects of these variables. Despite their different emphases, conclusions drawn from the two approaches are not incompatible; both suggest the centrality of performance to self-worth.

A comparison of Covington's (1984) results with the present findings reveals discrepancies that generally conform to predictions. Covington's (1984) finding that ability accounted for the largest proportion of self-worth variance (47.9%) suggests that for college students, the mere perception of ability is a central determinant of worth. However, the influence of the cumulative effect of performance on ability perceptions may have contributed to this finding; such an effect is unlikely in the present study as neither number of courses previously completed, nor number of courses attended simultaneously were related to model elements. The present findings indicated that the variability indirectly accounted for by effort was the major contributor to adult learners' self-regard (31.0%). For adult learners, then, effort, or having tried hard, was central to worth in terms of its impact upon performance.

According to the variance interpretation, the major discrepancy in the results of the two studies lies in the direct and indirect self-worth variance associated with effort and ability. In this respect the results of these studies are essentially opposite. While the direct proportions of self-worth variance accounted for by effort and ability were substantially larger than their indirect counterparts in Covington's (1984) study, the reverse was true in the present study. Thus for adult learners the value of effort and ability in enhancing worth is primarily a function of how these variables influence performance. Their perceived ability independently contributes comparatively little to worth (11.6%); likewise, trying hard, in and of itself, is of little import to the adult learner's sense of worth (11.1%). This perhaps reflects the different evaluative emphases of voluntary non-credit learning versus learning which takes place in an academic environment. In voluntary non-credit adult learning the performance criteria are essentially self imposed, whereas in a competitive academic setting performance standards are externally imposed. In the former situation participants have greater control over achievement of their personal standards, hence an increase in effort, for example, is more likely to result in enhanced perceived and/or actual performance. However, greater effort expenditure may not necessarily result in enhanced performance as defined by external standards due to factors such as comparatively

based evaluation procedures. Relatedly, lack of ability is more likely to be successfully compensated for by increased effort in self-evaluative as opposed to external-evaluative contexts.

The self-worth variance directly accounted for by performance was virtually equivalent in the two studies; 25.8% in the present study, and 24.7% in Covington's (1984) study. The present findings then, do provide support for the contention that performance is of primary importance to adult learners; effort and ability perceptions appear to contribute relatively little to adult learners' sense of worth unless they can be transformed into performance.

The proportions of self-worth variance directly accounted for by effort and ability were similar in the present study (11.1% and 11.6%, respectively), but the proportion of self-worth variance indirectly accounted for by effort (31%) far exceeded that of ability (20.5%); thus the total contribution of effort from direct and indirect sources explained comparatively more self-worth variance. In contrast, Covington's (1984) findings indicated that the total contribution of ability relative to that of effort accounted for the larger proportion of variability in worth. It appears, then, that effort is more closely linked to self-worth in adult learning contexts where self-evaluation prevails, while ability assumes this role in a college environment where performance is externally evaluated.

Further comparison of the two studies indicates that a

larger proportion of the variation in both performance and self-worth was explained by the present study; 43% and 28% for worth and performance, respectively, as compared to 33% and 14% in Covington's (1984) study.

Discepancies between the present findings and those of Covington (1984) are likely a function of the sample employed, as predicted, and may also be a function of differences in the measures of effort and performance. Covington (1984) was able to secure college students' grades as "objective" indicators of performance. No such indices were available in the present study, hence ratings of perceived performance were obtained. Certainly such ratings, or any of the ratings obtained, are not immune to social desirability biases. However, aside from situational constraints, there is further justification for the use of perceived performance rather than actual performance. Terbovic (1977) reports that although subjects' perceptions of their performance in both academic and social tasks were significantly correlated with general self-esteem, correlations between subjects' actual task performance and self-esteem failed to reach statistical significance. Nevertheless, a high significant correlation between actual and perceived performance suggested that perceived performance did indeed have basis in actual performance. Terbovic (1977) concludes that although perceptions of performance appear to be based on actual performance, they are more important to the development of self-esteem than is

actual performance. McIntire and Levine (1984) similarly report that perceived performance in academic and athletic tasks was significantly correlated with general self-esteem measures yet no significant relationship emerged between actual performance, or GPA, and measures of general self-esteem. While ratings of perceived ability and performance were significant influences on self-esteem in the present study, these ratings are also to some extent a function of self-esteem; Shrauger (1972) and Shrauger and Terbovic (1976) found differences in perceived performance as a function of self-esteem when no actual differences in performance were present. Thus discrepancies in the results of Covington's (1984) study and the present study may be a partial function of differences in the nature of the relationships between model elements and actual performance, and between model elements and perceived performance, respectively.

The representation of the effort construct in the present study may also have contributed to discrepant findings. Perhaps effort as construed here was less susceptible to social desirability biases than the comparable measure in Covington's (1984) study which simply requested subjects' ratings of their course-related effort expenditure.

Examination of the effect coefficients generated in the present study revealed that all direct linkages were significant in Model 1, hence each of the relationships

posited by the self-worth model was supported when course-related self-esteem represented the self-worth construct.

As predicted, the direct effect of performance emerged as the major contributor to worth for voluntary adult learners. This is likely reflective of the predominantly pragmatic approach towards learning held by adult learners; they initiate learning with the expectation that they will be able to apply course material beyond the actual learning situation. This finding lends additional empirical support to statements in the adult learning literature regarding the primacy of performance to adult learners (Brundage & MacKeracher, 1980; Cross, 1979; 1981; Johnstone & Rivera, 1965; Knowles, 1980; 1984; Knox, 1970; 1980; Tough, 1979; 1981); for the most part such statements appear to be relatively unsubstantiated empirically. Participants' replies to the open-ended pre-course question as to why they enrolled in the selected courses generally reflect this practical orientation toward learning, although presumably because of time constraints this question also elicited some very general responses. Some of the more articulate responses to this question are presented in Appendix E.

A related consideration of interest for future research is the association between participants' motivational orientations and components of the self-worth model. Motives elicited from open-ended questions might be generally categorized according to Houle's (1961) typology

in order to investigate how participants' predominant orientation toward learning relates to what they contribute to learning in terms of effort, ability, and performance, and what they gain from learning in terms of ability, performance and worth.

Contrary to prediction, the direct effects of effort and ability on worth were equal, yet the direct effect of effort on performance, the main contributor to worth, far exceeded that of ability. Thus the indirect effect of effort upon worth via performance was greater than the indirect effect of ability on worth. Again, effect coefficients indicated, contrary to prediction, that the indirect effects of effort and ability on worth did not exceed their respective direct effects. The direct link from ability to worth was almost twice as large as the corresponding indirect link; the direct and indirect coefficients reflecting the influence of effort on self-worth were not substantially different. In summary, analysis of effect coefficients indicated that although performance was the major influence on course-related worth, the indirect effects of effort and ability perceptions on worth via their instrumental value for performance were not as closely linked to adult learners' worth as were their respective independent effects.

Conclusions regarding the tenability of the self-worth model for voluntary adult learners differed according to whether the index of self-worth was specific or global. The

independent variables together explained 41% of the
self-worth variance when a specific indicator of self-worth
was included in the model (Model 1). When a global
indicator was incorporated in its place (Model 2), only 3%
of the self-worth variance was accounted for. None of the
direct links to self-worth were significant in the latter
model. The non-significant link between perceived
performance and global self-worth is consistent with the
results of several studies reviewed which reported on this
relationship. Greenhaus and Badin (1974) found no
significant relationship between perceived performance on an
anagram task and global self-esteem as measured by the
Self-Assurance scale of the Self Description Inventory.
Morrison (1979) likewise reported no relationship between
trait self-esteem as measured by semantic differential
scales and perceived performance (i.e. success or failure)
on anagram tasks. Boshier (1972) also reported that
perceived exam success/failure was not related to global
self-esteem as measured by Bills' Index of Adjustment and
Values. The findings of the former two studies are not
surprising as success or failure on an anagram task is
undoubtedly of little consequence, hence this task may have
lacked salience for subjects. The lack of association
between performance and general self-esteem is unexpected in
the present study as the significant pre-post increase in
Self Regard scale scores suggests that the courses examined
were indeed salient to participants; indeed, a marginally

significant correlation emerged between participants' pre follow-up change in Self Regard ($p < 0.052$) and their single scale ratings of course-related self-esteem. Although a significant difference between pre and follow-up Self Regard scores was apparent, the non-significant correlation between these difference scores and the composite indicator of perceived performance suggests that there was very little correspondence between the two sets of scores. Perceived ability, independently of its impact upon performance, was the largest, direct contributor to pre follow-up change in global self-regard, yet this relationship was not statistically significant.

Several reasons may account for the lack of association between change in Self Regard and other model elements. The first is evident upon examination of the cell means obtained in the MANOVA analysis which pertain specifically to the Self Regard scale. These results indicate that both personal development and skill groups' Self Regard means showed a tendency to increase over the three testing times. Although the skill group means exceeded those of the personal development group at each testing time, only the latter group evidenced significant pre-post change on the Self Regard scale. Participants in the two course domains did not differ significantly in terms of effort, ability or performance, and no significant within group correlations emerged between these variables and Self Regard scores. This suggests that perhaps group differences in Self Regard

contributed to the non-significant relationships between model elements.

A second possible explanation for the above finding may be that the courses lacked salience for a subset of respondents. Thus although the t value and related correlation coefficient suggest that the hypothetical high and low course salience groups together exhibited significant positive change in Self Regard, those in the latter group may have shown less of a change and hence contributed to the lack of consistency in the relationships among model components. There is support for the importance of the task salience variable in terms of its influence on the relationship between perceived performance and self-esteem (Terbovic, 1977). According to this study positive correlations emerged between perceived performance and self-esteem in the life area (social or academic) that subjects rated as being more important to them, and lower correlations were observed in the area of less salience to subjects. Terbovic (1977) suggests that a strong association between perceived performance and self-esteem emerges only in areas of competency that are salient to subjects. However, this explanation requires the assumption that the effect of course saliency was reflected in the measure of global self-esteem, but not in the measure of course-related self-esteem.

In summary, subjects' ratings of course-related self-esteem were affected by each of the three independent

variables, however, none of these variables appeared to contribute to change in participants' global self-regard. These results suggest the tenability of the self-worth model only when the index of self-worth is specific to the courses studied. However, this conclusion is limited to the extent that the observed differences on the Self Regard scale, (or on any of the twelve Personal Orientation scales), may be a function of artifacts such as instruction directed toward improvement in inventory scores, life events of participants over the duration of testing, test-retest effects, regression toward the mean, or any combination of the above. A significant negative correlation between pre-test Self Regard scores and pre follow-up difference scores on this scale indicates that change in Self Regard was indeed a function of subjects' initial scores, hence regression toward the mean did contribute to the observed change on this scale. Studies by Taylor (1955) and Morrison (1979) suggest that test-retest effects are not likely unless self-related measures are repeatedly administered over a short period of time. Taylor (1955) found that repeated self-introspection on a 120 item Q sort self-concept scale by university students resulted in significant gains in self-concept for students who made two self sorts per day over a period of five days. Related gains were not significant for students whose ten self sorts were interspersed over periods of one to seven and a half months. Morrison (1979), used two semantic differential measures of

trait and state self-esteem one week apart; she found no evidence of change on these dimensions as a function of pretesting. On this basis, test-retest effects probably did not contribute significantly to the increases observed on inventory scales in the present study, as testing periods were separated by at least four weeks.

Relative to the single indicator model (Model 1a), the incorporation of individual indicators of performance and worth in the multiple indicator model produced a substantial improvement in the fit of the model to the data as well as increases in the explained proportions of variance in performance and worth. This was accompanied by a corresponding decrease in the average size of the residuals. The effect coefficients were relatively unaffected by the inclusion of multiple indicators; relative to Model 1a, small decreases were observed in the magnitudes of the respective effects of ability on worth and effort on performance. Minor increases of comparable magnitude were exhibited by the remaining effect coefficients. Participants' satisfaction with their course-related performance was the best indicator of perceived performance, and as expected from the results of the single indicator models, course-related self-esteem was the better measure of the self-worth construct.

In order to better evaluate the tenability of the self-worth model as it pertains to adult learners, it may be appropriate to consider the incorporation of indicators

which are specifically tailored to each individual course examined. As indicated by the residual path coefficients associated with the dependent variables in the present study, unmeasured variables appear to have a greater impact on both performance and worth than do the measured variables. This may in part be a function of the general nature of the rating scales employed. An improved measure of perceived ability may result from obtaining ability ratings in those areas outlined by specific course objectives. A more specific basis for ratings of perceived performance may likewise be obtained by securing ratings of frequency, success, and satisfaction in areas specified by behavioural objectives which are directly relevant to task performance. The availability of specific course objectives would also permit the inclusion of meaningful pre-course ratings of performance, thus indices of improvement in performance over the duration of the course, and at follow-up, could be obtained. However, practical considerations such as obtaining the necessary cooperation from course instructors, would undoubtedly preclude the implementation of the suggested refinements for research purposes. A more elaborate measure of specific self-esteem suggested by Terbovic (1977) involves an evaluation of subjects' performance which is based on their perceived performance relative to their criteria for success. The denominator for this component is subjects' level of aspiration. Task salience and attributions of causality for

degree of success are included as weighting factors in the equation. This conceptualization of self-esteem emphasizes participants' self-evaluations of performance as an integral component of self-esteem. However, depending on the learning context, participants' evaluations of ability and effort may also be important sources of worth (Covington, 1984), as well, the acquisition of knowledge does not necessarily have to be translated into performance in order for the adult learner to experience enhanced self-esteem (Tough, 1979).

Task salience may be a useful factor to consider in terms of its mediating influence on the relationship between performance and self-esteem (Terbovic, 1977); as well, task salience and task difficulty may be important in terms of their effects on other model elements. A simulation study conducted by Brown and Weiner (1984) found that information given to subjects regarding effort expenditure influenced the inferences they made concerning task importance. A similar study conducted in a classroom setting (Brown and Weiner, 1984) found a significant positive correlation between effort expenditure and exam importance. This relationship was very similar for both perceived successful performers and perceived unsuccessful performers, and it was only negligibly reduced when task difficulty was partialled out. Brown and Weiner (1984) conclude from these studies that if a task is considered important, one tries hard, and alternately, if one tries hard task importance is inferred.

In summary, the models proposed by Tough (1979) and Cross (1981) advocate self-related benefits for the successful adult learner. Such benefits were evident in the present study, as reflected by the average rating of course related self-esteem and the overall significant increase on the Self Regard scale. The mean post course rating of course-related self-esteem (6.37) suggests that participants generally viewed their learning experiences favourably. The average ratings obtained for items measuring performance indicate that participants did attempt to apply course material upon course completion ($\underline{M}$=6.03), they experienced a moderate degree of success in their attempts ($\underline{M}$=5.43), and they felt some sense of satisfaction with the results of these endeavours ($\underline{M}$=5.73). Both variance and effect coefficient interpretations indicated that enhanced course related self-esteem could be attributed primarily to performance.

Analysis of change in the Personal Orientation scale scores as a function of course domain, i.e., personal development or skill oriented, yielded results comparable to previous assessments conducted on psychoeducational courses (Roney, 1975; McVicar, 1979; Pitsel, 1980; Henderson, 1976; Perkins & Kemmerling, 1983); subjects in both course domains generally experienced positive change on all inventory scales over the three testing occasions. As indicated by significantly lower pre-test means on nine of the twelve inventory scales, those enrolled in personal development

courses were less self-actualized, and hence had greater propensity for positive change than did skill course participants. This, considered in conjuction with their pre-course reasons for enrolling in personal development courses provides some evidence in favour of the salience of these courses for participants. However, significant negative correlations between pre-test scores and pre-follow-up change on eleven and eight of the twelve scales for the personal development and skill groups, respectively, indicates that change on inventory scales was generally a function of initial inventory scores for both groups.

On each of the twelve scales there was a definite trend for the overall (i.e., across testing times) skill group means to exceed those of the personal development group. However, not all of the twelve inventory scales were directly relevant in terms of distinguishing the two course domains. Scales in the areas of Feeling and Self-Perception, as well as the major scale, Inner Directedness, appeared particularly relevant to the distinction between the two course domains and hence were subjected to further analyses. The main effect for Group indicated that the skill group surpassed the personal development group on three of the five scales; the two groups did not differ significantly on the Feeling Reactivity or Spontaneity scales. Thus the major differences between the groups were in the areas of

Self-Perception and Inner Directedness. A comparison of the two groups' mean scores on the Inner Directedness scale indicates that while the skill group scored in the normal range at post-test and follow-up, personal development group means fell in the non self-actualizing range at each of the three testing times. According to Shostrom (1974), this suggests that rather than being guided primarily by their internal motivations, the actions of the latter group were more dependent upon external influences, such as the approval of others. More specifically, Shostrom (1974), characterizes those that fall in the non self-actualizing range as being motivated by fears and anxieties related to social pressures and expectations; consequently they tend to adopt habitual patterns of relating that emphasize pleasing others. Group comparisons on the Self Acceptance scale also reveal that personal development course participants were generally less accepting of their weaknesses.

Significant positive change on each of the five scales occurred only when the courses were in session, yet further non-significant increases on each scale occurred between post and follow-up testing. When the groups were considered separately, the personal development group showed significant pre-post increases on all five scales, while the skill group evidenced like increases on three of the five scales. A comparison of pre-post difference scores with post follow-up difference scores, within each course domain, indicated that in the personal development group, pre-post

difference scores were significantly greater than post follow-up difference scores on two of the five scales; no significant differences emerged when equivalent comparisons were made for the skill group. Therefore, although post follow-up differences were generally of a lesser magnitude than pre-post differences, for the most part post follow-up differences were not significantly less than pre-post differences for either group. Examination of the individual scale means at post-test indicated that ceiling effects were not likely to have contributed to non-significant increases in scale scores between post and follow-up testing. It appears, then, that the positive changes attained over the duration of the courses were generally retained over time. The question remains as to whether personal development group participants would have experienced similar change had a subset of these participants been selected for placement in a skill course of their choice at the time of registration. These results suggest that self-related benefits can be attained by learning a skill of interest as well as by learning which is specifically focussed on various aspects of personal development. This lends some support to Klugerman and Darkenwald's (1982) claim that such benefits are not simply a function of intervention specific to this end; they may also be a function of successful accomplishment in meaningful tasks. Indeed, significant positive correlations between course-related self-esteem and each performance indicator were evident for the skill group

and with the exception of the frequency indicator, each of these relationships also reached significance for the personal development group.

The interaction between group and time variables suggests the effectiveness of the personal development courses in increasing participants' Self Regard and Feeling Reactivity. At pre-test the skill group significantly exceeded the personal development group on both scales; yet the two groups showed no significant differences on either scale at post or follow-up testing. Personal development courses, then, appeared to be of particular value in enabling subjects to perceive themselves more positively through acknowledgement of their personal strengths and to develop increased sensitivity to their personal needs and feelings. However, analysis of covariance on personal development and skill groups' pre follow-up difference scores, using corresponding pre-test scores equated for range as the covariate, revealed no main effect for group. Hence, it appears that the differential change attained by personal development and skill groups on the Feeling Reactivity and Self Regard scales was primarily a function of the former group's lower initial value.

In summary, participation in adult learning appears to have contributed to positive change in the areas of Inner Directedness, Feeling, and Self-Perception. The general trend in the direction of positive change on all inventory dimensions, in particular the Self Regard scale, tends to

substantiate participants' ratings of enhanced course-related self-esteem. However, it is difficult to determine the extent to which regression toward the mean may have contributed to such increases, although this was certainly a factor in the observed change over time for both groups as indicated by significant negative correlations between pre-test scores and difference scores.

Among the benefits typically advocated for adult learners are the immediate consumption benefits, development of related knowledge and skill, as well as personality benefits in the form of enhanced self-esteem (Peterson, 1980). Self-related benefits such as these are especially important to those adult learners whose re-entry or pursuit of further learning is contingent upon their perceived successfulness in the low threat activity of non-credit learning—this was in fact the intent of several female participants in the present study. Accordingly, success experiences which cater to the performance centred concerns of adult learners should be explicitly incorporated into the design of learning activities in order that participants can acquire a positive image of themselves as learners, and perceive participation as leading to worthwhile outcomes. Dufresne-Tasse (1983) suggests that the utilization of knowledge/skills acquired through learning generally leads to a changed self-image as well as enhanced feelings of competence and satisfaction. Brundage and MacKeracher (1980) stress the importance of such feelings of success and

satisfaction in reinforcing changes made via learning and
stimulating interest in further learning.

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Appendix A

Preliminary Questionnaire

Please respond to the following questions with CHECK MARKS unless otherwise indicated and ADD INFORMATION as warranted.

1. Please indicate briefly your reasons for taking this particular course.

2. Are you presently enrolled in any other adult education classes?

    Yes _____   No _____

    If YES, please name them or indicate the general subject matter they address.

3. Your age group is:

    _____ under 20   _____ 50 to 59

    _____ 20 to 29   _____ 60 to 69

    _____ 30 to 39   _____ 70 or over

    _____ 40 to 49

4. Your marital status is:

    _____ single

    _____ married

    _____ divorced

    _____ separated

    _____ widowed

5. Your present status in the labour force is:

_____ employed full-time

_____ employed part-time

_____ student

_____ not employed outside home

_____ unemployed

_____ retired

6. The highest year of formal schooling you have completed is: (Please circle)

<u>1 2 3 4 5 6 7 8 9</u>   <u>10 11 12</u>   <u>1 2 3 4</u>   <u>1 2 3 4</u>
(elementary and (high school) (college or (graduate
junior high)   university) school)

7. How many years has it been since you completed your formal schooling? _____

8. How many adult education classes have you attended over the past <u>2 years</u>. (Please circle).

none   1   2   3   4   5   6   7   8   more than 8

9. Please provide the names (or general subject area) of these classes.

Appendix B

Self Rating Scale

COURSE NAME

Please respond to the following questions by CIRCLING applicable response categories (unless indicated otherwise). Thank you.

1. Are you currently enrolled in any other adult education classes?

    Yes _____   No _____

    If so, please name them, or indicate their general subject matter.

2. Of the 8 classes offered, how many did you attend?

    1   2   3   4   5   6   7   8

3. What percentage of the suggested out-of-class exercises did you complete?

    0   10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

4. Your current level of ability in the subject matter addressed by this course is . . .?

```
1        2        3        4        5        6        7        8        9

very                      average                              very
low                                                            high
```

5. How OFTEN do you presently apply the knowledge/skills you acquired during this course?

```
1        2        3        4        5        6        7        8        9

not                       sometimes                              as
at all                                                      often as
                                                            possible
```

6. How SUCCESSFUL are you in your attempts to apply the knowledge/skills you acquired during this course?

```
1        2        3        4        5        6        7        8        9

extremely                 moderately                        not at
successful                successful                           all
                                                           successful
```

7. How SATISFIED are you with the results of your attempts to apply the knowledge/skills you acquired during this course?

```
1        2        3        4        5        6        7        8        9

not at all                somewhat                        extremely
satisfied                 satisfied                       satisfied
```

8. How has this learning experience affected your self-esteem?

```
1        2        3        4        5        6        7        8        9

extremely                     not at all                    extremely
positively                                                  negatively
```

9. Have you, or will you, enroll in another course dealing with this subject matter?

Yes _____   No _____

Appendix C

Introductory Letter

As a graduate student at the University of Calgary, I would greatly appreciate your involvement in a thesis research project which requires the completion of a short questionnaire by adult education participants such as yourself. This research will attempt to evaluate two types of adult education programs in terms of their effect upon participants' personal growth; it may have implications for program planning and program counselling in adult education. Approval to conduct this study has been granted by the Calgary Board of Education.

If you would like to take part in this research, please arrive at your first CLASS NAME class on DAY, DATE, at TIME (half an hour prior to scheduled class commencement). At this time further information regarding the research will be provided and completion of the questionnaire will take place. If you have any preliminary questions, please feel free to contact me at 220-7338.

Shortly after you receive this letter I will attempt to contact you personally by phone in order to determine the possibility of your participation. I must emphasize, though, that your involvement in this research is completely voluntary, all responses will remain confidential, and you may, at any time, terminate your involvement.

I look forward to meeting you at TIME, DAY, DATE, at LOCATION, and thank you in anticipation of your participation.

Sincerely,

Angela Muhlenfeld
Graduate Student

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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1.00															
2	.83	1.00														
3	.83	.72	1.00													
4	.88	.74	.81	1.00												
5	.59	.49	.49	.58	1.00											
6	.09	.04	.14	.11	.18	1.00										
7	.33	.28	.29	.39	.37	.17	1.00									
8	.44	.44	.32	.35	.43	.03	.12	1.00								
9	-.06	-.15	.01	-.07	-.18	-.06	.19	-.13	1.00							
10	-.05	-.03	-.09	-.15	-.19	.10	-.07	-.07	.12	1.00						
11	.07	.17	.15	.09	.07	.04	-.16	.07	-.08	.24	1.00					
12	-.08	-.10	-.14	-.02	-.24*	.02	.24*	-.33*	.14	-.10	-.19	1.00				
13	-.08	-.16	-.04	-.04	-.07	-.08	-.03	-.30*	.13	-.22	-.28	.26	1.00			
14	-.01	-.03	-.00	-.12	-.06	-.08	-.23	.16	-.00	.77	.29	-.49	-.29	1.00		
15	.00	.03	-.02	-.02	.09	-.09	-.19	-.04	-.04	-.13	.02	-.00	.17	-.06	1.00	
16	-.00	-.02	-.05	.08	-.06	-.04	.04	-.06	.00	-.20	-.12	.12	.10	-.20	.43	1.00

1 - Performance
2 - Frequency
3 - Satisfaction
4 - Success
5 - Course-related self-esteem
6 - Self Regard
7 - Ability
8 - Effort

9 - Sex
10 - Age
11 - Marital Status
12 - Years of Schooling
13 - Employment Status
14 - Years Since Completion of Formal Schooling
15 - Number of Courses Completed in Past Two Years
16 - Number of Courses Attended Presently

* $p < 0.05$

Appendix D2

Eighth order correlation matrix controlling for
demographic variables

	1	2	3	4	5	6	7	8
1	1.00							
2	.83	1.00						
3	.84	.74	1.00					
4	.89	.74	.82	1.00				
5	.60	.47	.47	.58	1.00			
6	.09	−.02	.16	.10	.21	1.00		
7	.38	.36	.35	.43	.52	.15	1.00	
8	.45	.46	.31	.37	.39	.08	.25	1.00

1: Performance
2: Frequency
3: Success
4: Satisfaction
5: Course related self-esteem
6: Self-worth
7: Ability
8: Effort

Appendix E

Reasons for Participation

"To learn more ways of investing money"

"I would like to broaden my knowledge regarding stocks and
bonds, so that I can make wiser investments with my risk
capital"

"I felt it would be useful in helping me understand some of
my clients daily affairs and perhaps give me an edge to earn
on an investment"

"To become better informed on the stock market, learn to read
quarterly reports etc. such that I can participate"

"...to be able to read the stock quotations in the paper and
know exactly what it all means"

"I plan to invest in the future, and wish to learn the basics
before I start in order to avoid making mistakes"

"Gain self-confidence, achieve my goals (and set goals)"

"...to develop a better understanding of who I am..."

"To help positive thinking and develop better control of
reactions"

"I find myself at a time of my life where I feel I am
floundering...no definite future plans and no real goals. I
hope this course will help me learn to know myself better
and make some decisions"

"Hopefully the course will serve as a guide to self-awareness
and will contribute to my continuous struggle for
self-confidence"

"My life is currently undergoing a lot of stress due to
changes. I want to maintain my self identity and/or esteem
in order to survive these changes"

"I think I have a problem with my self-esteem, and I think a
lack of self-identity plays a large role in this"

"Still having a self-esteem problem"

"I enjoy writing journals etc. and am particularly interested
in developing my skills for keeping records of our family
life to be shared over the years in our family"

"To improve myself through understanding myself worth"

"Always wanted to take such a course - feel I have problems
working with people - good idea to work on these"

"I feel it would help in my work, everyday living and I
wanted to do something constructive with my time..."

"I am interested in furthering my writing skills to pursue a
freelance writing career"

"To learn to put my thoughts on paper in an organized
fashion"

"I want to improve my writing ability and this course is the
motivation I need"

"To understand stress and learn how to relax"

"I am planning to build a house and want to have a good
knowledge of materials/designs available"

"...to enable me to effectively create an attractive
atmosphere and decor in my home"