A PSYCHOSOCIAL INTERACTION STUDY OF ADULTHOOD DEMOGRAPHICS
AND NON-COMPULSORY EDUCATION, LEARNING, TRAINING,
AND DEVELOPMENT PARTICIPATION USING THE
NATIONAL HOUSEHOLD EDUCATION SURVEY

Jimmy L. Chillis, BBA

Dissertation Prepared for the Degree of

DOCTOR OF PHILOSOPHY

UNIVERSITY OF NORTH TEXAS

December 2011

APPROVED:

Robert Poirot, Major Professor
Jennifer Callahan, Minor Professor
Jerry Wercinski, Committee Member and
Program Coordinator
Bill Elieson, Interim Chair of the
Department of Learning
Technologies
Linda Schamber, Acting Dean of the
College of Information
James D. Meernik, Acting Dean of the
Toulouse Graduate School
Chillis, Jimmy, L. *A psychosocial interaction study of adulthood demographics and non-compulsory education, learning, training, and development participation using the National Household Education Survey.* Doctor of Philosophy (Applied Technology and Performance Improvement), December 2011, 150 pp., 15 tables, 4 figures, references, 151 titles.

This report analyses the NHES: 2005 data to present the state of American education in reference to “adult” participation in education. Psychosocial interaction theory is applied to the social event of attaining adulthood to analyze and report the propensity of American adults to participate in non-compulsory adult education. The review of the literature of perceptual demographic variables of adult attainment: age, prior education, subordinate responsibility, child-age dependent care, marital status, job stability, and home ownership.

The analysis compares the data of participants and non-participants of non-compulsory adult education using binomial logistic regression analysis with tests, for a 95% confidence level and .05 significance. Included is a discussion of how appropriately aligned development opportunities and experiences may further increase education effectiveness and performance outcomes.
### TABLE OF CONTENTS

| LIST OF TABLES                                      | ................................................................. vi |
| LIST OF ILLUSTRATIONS                              | ........................................................................ vii |
| Chapters                                          | ........................................................................ 1 |
| 1. INTRODUCTION                                    | ........................................................................ 1 |
| - Background                                       | ........................................................................ 1 |
| - The Andragogy Technique                          | ........................................................................ 1 |
| - Significance of Study                            | ........................................................................ 1 |
| - Theoretical Framework                            | ........................................................................ 1 |
| - Purpose of Study                                 | ........................................................................ 1 |
| - Research Question                                | ........................................................................ 1 |
| - Hypotheses                                       | ........................................................................ 1 |
| - Delimitations                                    | ........................................................................ 1 |
| - Assumptions                                      | ........................................................................ 1 |
| - Definition of Terms                              | ........................................................................ 1 |
| 2. LITERATURE REVIEW                               | ........................................................................ 28 |
| - Introduction                                     | ........................................................................ 28 |
| - Age                                             | ........................................................................ 28 |
| - Prior Education Success                          | ........................................................................ 28 |
| - Subordinate Responsibility                       | ........................................................................ 28 |
| - Having Child-Aged Dependent in Household         | ........................................................................ 28 |
| - Marital Status                                   | ........................................................................ 28 |
| - Presence of Employment Stability                 | ........................................................................ 28 |
| - Home Ownership                                   | ........................................................................ 28 |
| - Non-compulsory Adult Education Participation      | ........................................................................ 28 |
| - Summary                                          | ........................................................................ 28 |
| 3. METHODOLOGY                                     | ........................................................................ 48 |
| - Introduction                                     | ........................................................................ 48 |
| - Population                                       | ........................................................................ 48 |
Sample
Data Collection Procedures
Instrumentation
Treatment of Data
  Dependent Variable
  Independent Variables
  Independent Variable Classification Analysis
  Independent Variables
  Dependent Variables
  Participation in Training/Learning and or Development for Any Reason Restriction
  Participation in Training/Learning and or Development Restriction
  Binary Logistic Regression Analysis

Summary

4. RESULTS AND FINDINGS .................................................................................65
   Introduction
   Participants
   Binomial Logistic Regression Analysis Results
     Binomial Logistic Regression Analysis
     Correlation of Group Means and Variances
     Case Processing Summary
     Goodness of Fit
     Likelihood Ratio Tests
     Classifications
     Effect Size (phi)

   Summary

5. DISCUSSIONS, RECOMMENDATIONS, AND CONCLUSIONS .......................76
   Introduction
   Discussion
     Age
     Subordinate Responsibility
     Past Education Success Level
Having Work Stability
Having a Child Aged Dependent
Limitations and Recommendations for Further Research
Conclusions

APPENDICES ........................................................................................................................................84

REFERENCE LIST ..................................................................................................................................136
# LIST OF TABLES

<table>
<thead>
<tr>
<th></th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Comparison of Herzberg and Maslow Theories</td>
<td>45</td>
</tr>
<tr>
<td>2</td>
<td>Population/Sample Comparison</td>
<td>49</td>
</tr>
<tr>
<td>3</td>
<td>Data Planning Matrix: Social-based Adult Demographic Determinants of Participants and Nonparticipants of Non-compulsory Adult Education</td>
<td>52</td>
</tr>
<tr>
<td>4</td>
<td>Variable Matrix</td>
<td>53</td>
</tr>
<tr>
<td>5</td>
<td>Design Variables</td>
<td>55</td>
</tr>
<tr>
<td>6</td>
<td>Prior Education Success Levels</td>
<td>56</td>
</tr>
<tr>
<td>7</td>
<td>Hypothetical Five-Step Regression Model With 101 Subjects and 50 Predictor Variables</td>
<td>62</td>
</tr>
<tr>
<td>8</td>
<td>Prior Probability for Entire Sample</td>
<td>66</td>
</tr>
<tr>
<td>9</td>
<td>Group Statistics</td>
<td>67</td>
</tr>
<tr>
<td>10</td>
<td>Hosmer and Lemeshow Test</td>
<td>68</td>
</tr>
<tr>
<td>11</td>
<td>Omnibus test of Model Coefficients</td>
<td>69</td>
</tr>
<tr>
<td>12</td>
<td>Likelihood Ration Tests</td>
<td>70</td>
</tr>
<tr>
<td>13</td>
<td>Iteration History</td>
<td>71</td>
</tr>
<tr>
<td>14</td>
<td>Classifications</td>
<td>72</td>
</tr>
<tr>
<td>15</td>
<td>Null Classification</td>
<td>73</td>
</tr>
</tbody>
</table>
# LIST OF ILLUSTRATIONS

<table>
<thead>
<tr>
<th></th>
<th>Illustration</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Psychosocial interaction model</td>
<td>19</td>
</tr>
<tr>
<td>2</td>
<td>Theoretical explanatory view model for psychosocial interactions</td>
<td>21</td>
</tr>
<tr>
<td>3</td>
<td>Decision tree for non-compulsory adult education participation</td>
<td>60</td>
</tr>
<tr>
<td>4</td>
<td>Equation for phi</td>
<td>74</td>
</tr>
</tbody>
</table>
CHAPTER 1
INTRODUCTION

This chapter begins with a background and explanation of the significance of studying adult education as it relates to providing adults with appropriately aligned educational, learning, training and development opportunities, situations, and experiences. Next this chapter includes the theoretical framework supporting the significance and practical applicability of the study. Also included in this chapter are the descriptions of the research hypotheses, limitations, and delimitations. The chapter is concludes with the definition of terms.

Background

In 1833, Alexander Kapp (as cited in Knowles, Holton, & Swanson, 2005) introduced andragogy as a set of methods for educating adults. Andragogy, later revised by Knowles, depicts several assumptions about how and why adults learn (Knowles, 1989). Knowles’s assumptions describe adult learners as independent beings who have forged their identities from unique personal experiences and are now ready to learn (Knowles, 1990; Knowles, Holton, & Swanson, 2005). These assumptions have been widely adopted into what is considered today as adult education, learning, and training and development (Craig, 1996; Stolovitch & Keeps, 1999), but no literature can be found to suggest a determination of whether the participants follow the most basic tenet of andragogy theory, which is adult education participants choose to do so independently as a result of their personal experiences, prompting a readiness to learn.

Majority of adult education is seen as work-related education (Jacobs, 1990; O’Donnell, & Tobbell, 2007). For this reason, much of the research and general literature pertaining to adult education development is from studies in which participation is for work-related reasons and the
majority of the practice of adult education is also for work-related situations (Dixon, 1992; Hefler & Markowitsch, 2010; Walton, 2004).

It is found that “practitioners are reporting that the theories proposed rarely fit into their practice, as researchers in the field have paid too little attention to the various cultural and socioeconomic contexts in which adult education is carried out” (Cutz & Chandler, 2000, p. 64). Researchers such as Chandler have expressed concerns for the gap between theory and practice. Chandler, in assessing the adult education practices of Guatemala and the theories presented on adult education, has suggested that theories have largely ignored the diversity of populations in favor of homogeneous groups of learners (Cutz & Chandler, 2000). It is yet to be put into practice the findings like that of O’Donnell and Tobbell (2007) which suggest a significant relationship between active participation and learning. In assessing the participation of adult, nontraditional students in an entry-level higher education course, O’Donnell and Tobbell (2007) found that those who did not fully participate in the higher education community actively rejected what was taught in favor of finding their own way. With a tendency of focusing on a narrow range of learners it should be expected that few people will actually learn or show a permanent change in their behavior. With a low level of learning and permanency the results of training programs will undoubtedly be negatively affected.

At a time when millions of dollars are spent every year on continuing education and training, with estimates of less than 10% of programs producing the desired results, it is interesting that only recently has it been suggested that adult education programs be held accountable for their effectiveness, both for the learning and how this learning transfers beyond the classroom (Illeris, 2009; Merriam & Leahy, 2005). It should be expected that, before expenditures reach the millions of dollars per year point, a reasonable knowledge of a
technique’s effectiveness be determined. Scholars such as Kirkpatrick (1994) and Wiggenhorn (1996) have stressed the importance of and offered ways to evaluate adult educational efforts but have done so under the assumption that all participants were adults. Under the umbrella of Kirkpatrick’s *Evaluating Training Programs: The Four Levels*, a new segment of the industry grew with the intent of determining ways to prove that the industry of adult education was doing its job. Obviously, evaluating programs is a good idea, but the need for job security appears to have overtaken the industry’s true needs of increasing its techniques’ learning transference effectiveness.

It could be said that before an industry lays claim to what it can affect, it should first assure that its attempts to do so are in fact tried upon what it intends to affect, in this case the individual adult. Although, individual development within capitalist economies has always proved necessary for the economic prosperity of organizations and societies, many practitioners of training/learning and or development is given no assurance of participants actually being adults. This is to say, the best assurance of successfully completing capitalist goals is by use of interventions for creating, improving, and/or changing behavior to that which is best suited for the optimal use of human resources (Adams, 1971; Arnold, 2001; Dobb, 1973; Dunn, 1999; Junior Achievement, 1993; Porter, 1990; Ng and Shan, 2010; Sleezer, 2004; Smith, 1776; United Nations Department of Economic and Social Affairs, 2008). Although the majority of optimal-use-based adult education efforts are done with well-developed techniques, it is potentially wastefully done as: “There is still a wide gap between the vast majority of training practices and our knowledge about how people really learn” (Winer, Rushby, & Vaquez-Abad, 1999, p. 889) and thus provide organizations and society with the desired and expected results.
Considering the importance of productivity many scholars and research based organizations suggest that properly managing learning transference cannot be overstated as a necessity in today’s organizational environment (Davidow & Malone, 1992; Drucker, 1975, 1980; Hammonds, 2001; Leftwitch & Sharp, 1994; Peters & Waterman, 1982; Porter, 1990; Senge, 2006; Smith, 1776; Ng & Shan, 2010; Soule, 1952; Torraco & Swanson, 1995; World Research Inc, 1976). Because of today’s global economy, with its heightened competitive state, technological advancements, social developments, and economic developments, the United States and its population has and continues to experience extensive changes in skill-set demands (Bureau of Labor Statistics, 2005; Quinlan, 2008). In efforts to tend to such concerns other countries such as Canada have combined its state immigration policies, and labor need to position itself for continued global competitiveness (Ng & Shan, 2010). Russia, the United Kingdom and other countries also, has taken an integrative approach with its national and education policies in effort to restructure its educational system (Bariso, 2008; Mulenga & Liang, 2008; Zholkov, 2010).

As educational efforts assume more complicated lessons in an increasingly complicated learning environment (Illeris, 2009; Quinlan, 2008), higher academic performances are being realized from andragogy practices (Messemer & Valentine, 2004; Schunk & Swartz, 1993; Warriner, 2010; Zimmerman & Marinez-Pons, 1992). Similar to children, adults have various temperaments, preferences, and external issues that affect behavior in and responses to learning situations (Illeris, 2009; Knowles, 1980). Because of such behavior response differences, it may be advantageous for the goal of educational accountability schemes to include a deliberate function to assure that respondents are ready to participate in a proposed adult education/change effort.
It is believed that humans continue to be resistant to change such as that promoted by education (Certo, 1983; Craig, 1996; Nalle, Yatt, & Myers, 2010; Stolovitch & Keeps, 1999), but it is argued here that having a workforce willing, desiring, and ready to learn would circumvent the associated ills of such resistance. It thus follows that change initiatives may be wasted if individuals do not embrace the change (Certo, 1983; Drucker, 1980) whereas increasing the number of those initiating, accepting, and promoting change will increase the chance of successful change, learning transference (Stolovitch & Keeps, 1999), and goal accomplishments (Hersey & Blanchard, 1982).

Some participants of training and other facets of adult education participate through the suggestion or direction of those other than self, a direct contradiction to Knowles’s andragogy theory assumptions. There is no need to argue the merits of Knowles’s version of andragogy, because the true issue is that the practitioners of adult education who adopted his theory as their foundation did so without fully incorporating all facets of the theory, specifically the cognitive and physical act of self-development. According to G. G. Darkenwald and Merriam (1982) Knowles’s andragogy theory assumptions epitomize self-development as key to adult learning and development. Adult development theory dictates that as humans reach adulthood they take on the responsibility of self-development and are more apt to reject situations that force participation in contradiction to their self/preferential-image of being adult (Barron, 2006; Beder, 1990; Knowles, 1978, 1990).

Taking the notion that adult nature is to prefer and respond best when being treated as independent beings (Knowles, 1990; Ryu, 2010), it should stand; the most effective interventions shall be those that are based on non-compulsory participation. Peters (1966) points out that the nature of education is identified as to rule out some procedures of transmission on the grounds
that they lack willingness and voluntariness on the part of the learner. If both the nature of man
and education is accepted as described focus should be given to reduce resistance and increase
responsiveness to given efforts. One key technique for applying a proactive approach to
increasing levels of training and development effectiveness is andragogy.

The Andragogy Technique

The process of training and development can be described as being part of a continuum
consisting of self-directed learning on one end and others-directed learning on the other end.
These two dimensions – one for the degree of which the learner takes control of his or her
learning – one for the degree of which others take control of the learners actions and activities to
reach a desired learning state are used to base the overall approach to be used in training and
development. The decision about what point between self and others directed learning depends
on several factors. These factors include the desired outcome, the available and applicable
technology, the current knowledge skills and abilities of the target audience, the complexity of
the knowledge and skills and or abilities desired, how entrenched are participants’ attitudes, and
the learner’s capacity and motivation for learning.

It is held that the shift from the agricultural/mechanical to the industrial age brought
about the shift from apprenticeship to training. The industrial age, based on economies of scale
and an increase of span-of-control, developed to a point in which standardization was taking
hold. No longer were products created based on the sole artistic craftsmanship of one individual
and no longer were the skills of the craftsman passed down solely by one-on-one methods of
knowledge transference. The artist/craftsman had become the trainer of many. Since the
mechanization and assembly process integration ushered in a need for workers to perform to a
set standard/process and speed, the area of training had become of greater importance. During
the earlier periods of the training era [I use the term “training era” here to depict there is a time of which training has began as a separate function of production but has ended as it was integrated with development and being recognized as “training and development”] consisted of “showing” and “telling,” where one individual would tell another individual what to do during, after and arbitrary time period of watching the “master craftsman” perform the job(s) of the chosen trade/craft.

This industrial revolution also ushered in another phenomenon seen as specific training requirements for specific tasks to be done. The separation of tasks made each individual’s efforts dependent on another worker’s performance. To organize and maximize the efforts of employees; “Industry became employer, guardian, and patron of body and soul. Industry was willing to become involved in broad issues of education and quality of life… Employers provided not only for a job, but for an entire set of living circumstances designed to nurture and educate.” The key term here is “educate,” as in the education of employees and due to minimal use of children as labor otherwise recognized as adult education.

With the importance of goal attainment for any organization, it should be no surprise that organizations see their opportunities to thrive as reasons to tend to training as if the desired outcome is in fact a permanent change in behavior otherwise described or referred in training and development as KSA (knowledge, skills, and abilities) transference. For example the University of North Texas considers the purpose of training and development as:

To promote organizational vitality by providing progressive training and development opportunities that support life long learning and assist individuals in working effectively together within their departments and throughout the University community. (University of North Texas, 2011)

With a policy containing:
… Such development shall be aimed at the needs of the individual employee and the University. Education and training will be offered to improve personal and professional skills and to prepare for assuming jobs of greater responsibility. (University of North Texas, 2011)

Even today, with organizations recognizing employees as their greatest assets the need to align employee efforts with organization needs has also been recognized. To commingle employee efforts with organization needs there is a need for technologies that can aid organizations and individuals achieve desired outcomes. The application of appropriate technology should be addressed. To increase productivity, Andragogy is one such technology applied to training and development.

The word Technology also often rings discordant in the ears of human resource professionals, for whom the term conjures up mechanical images. But technology is not simply machinery: in its origins, it is essentially referred to as the scientific study of practical matters. Recently, the term has been used increasingly to denote the application of procedures derived from scientific research and professional experience to the solution of practical problems. (Stolovitch & Keeps, 1999 p. 5)

As prior mentioned, andragogy has been widely adapted and accepted as an applicable technology for transferring adult education, learning, and training and development from the learning environment to the work environment (Craig, 1996; Stolovitch & Keeps, 1999). Lindeman (1926) adopted andragogy and introduced the term to America as a method for teaching dispirited and degenerated people, and explained it as a key method for teaching adults. Malcolm Knowles acquired the term in 1966 and infused it with much of his own meaning garnered from his already extensive experience in adult education. The defining attributes of his theory include: acknowledging that learners are self-directed and autonomous and that the teacher is a facilitator of learning.

Andragogy’s wide acceptance as a choice technology for transference of adult education/learning and training/development is due to Knowles successfully testing and refining his theory and design on a broad spectrum in numerous settings: corporate, workplace, business, industry,
healthcare, government, higher education, professions, religious education, and elementary, secondary, and remedial education (Henschke, 2011).

In chapter 1 of *The ASTD Training & Development Handbook*, Miller writes:

> Many HRD professionals will be engaged in helping organizations change and transform. Many of them will act as brokers for the constant learning that will make such changes possible. In their roles as agents of learning, trainers will shift their focus from themselves as teachers to their students as learners. (Craig, 1996)

Due to the current business environment the need for andragogy’s ability to teach a dispirited and degenerated people has once again become necessary. The current business environment is driven by constant change and a growing importance of learning and applying information to positively impact organization performance. Professionals are calling for organizations to focus on learning and development. For example:

> At a session chaired by Charles Jennings, MD of Duntroon Associates and a member of Online Education’s steering committee, Josh Bersin, CEO of Bersin Associates, gave some examples of organizations with high-impact learning cultures – the “next big thing in corporate training” – and highlighted the growing importance of “continuous learning environments” in which formal learning designed and delivered by L&D practitioners is augmented by informal learning. He told delegates: “A person enters a job with some level of skill. He goes up the learning curve to the plateau, and the business says ‘you need some training, go to a class’. He develops a tremendous amount of expertise during the course, gets a little bit of a chance to apply it, goes back to work and immediately loses 70-80 per cent of it. (Training Journal, 2001 p. 8)

The literature review of this paper shows that failure to follow the key assumptions of andragogy consistently resulted in low outcomes for training and development efforts, while adherence to the assumptions provided more positive results for both the individuals and the respective organizations. Michael Chapman, HR and quality-management director of BHSF, explains:

> With a challenging employment market, upgrading transferable skills and gaining national recognized qualifications make more sense than ever. When business starts to come out of the economic downturn, companies will be struggling if they have not retained and improved their skill base. Business leaders need to prioritize their investments through employee NVQ programmes, apprenticeships, partnerships with
schools, colleges and universities and graduate recruitment. These activities are key in improving productivity and competitiveness for business both large and small. (cited in Pollitt, 2002, p. 22)

BHSF has found that through proper training improved efficiency, smarter working, faster-pace and improved service levels were achieved. The company gives each of its 123 employees the opportunity to enroll in a National Vocational Qualification education program (Pollitt, 2002). In addition to providing, offering, supporting, and rewarding participation and completion of educational opportunities the company couples its efforts with giving its employees the opportunity to partake in adult-like behavior.

Providing opportunities for employees to partake in generative activities as part of the company’s Corporate and social responsibility program has proved to offer the company great rewards as described by Michael Chapman:

The individual develops skills and gain a recognized competency standard and there is probably a higher level of motivation, sense of commitment to the business and scope to make a greater contribution. (cited in Pollitt, 2002, p. 22)

The idea of having employees partake in adult-like behaviors outside the organization as a fully functioning contributor to and care taker of the community has been found to benefit all stakeholder parties. For example one graduate trainee of BHSF volunteered one day a week working with a charity for the visually impaired (and other disabilities) said that his experiences, as a volunteer, “formed a major part of his personal development” (Pollitt, 2002, p. 23).

Another organization found that by giving their managers the responsibility and training to address subordinate issues as expected other benefits were realized. Adhering to andragogy methods of educating training was designed as two training program suites. The learners consisted of 90 managers charged with handling subordinate conflict related issues. It was determined that managers and supervisors ought to be able to manage their teams more
effectively and fairly, to diffuse conflict, to motivate and lead and to control and enhance individual capabilities.

A blended-learning approach was taken to incorporate theoretical explanations, classroom presentations, role plays, team activities, open-forum discussions and homework based on Harvard Business School case studies. Following andragogy methods, the training consisted of having the learners participate in post workshop review sessions where the learners were invited to discuss their plan to apply the skills they had learned. The company’s head of HR explained:

During and since running the training program there have been some expected and unexpected benefits to the individuals as well as the business. The significant achievement has been to provide inspirational training and development for the first time to around 100 managers. This has led to a notable change in mindset – equipping managers with the capabilities to lead, motivate and challenge in a difficult organizational culture that was notoriously reactive and skeptical of the value of development interventions.

Sally Gibson concludes with saying:

HR instruction enforcing these behaviours would not have succeeded before the programme, based on previous experience. However, as a direct result of attendance, the programme expanded managers’ skills, increased awareness and subsequently developed appreciation of how they could add value through effective people management. The inclusive nature of discussions and debate, together with imparting best practice, has resulted in these behaviours now being embedded.

Moreover, there is now a strong platform for learning and development to be embraced throughout the organization.

The company’s chief executive adds:

By providing a focused training initiative we have been able to improve a number of people-related performance indicators across the business, such as absenteeism… Employees have shown greater confidence, improved communication and more awareness of the commercial issues faced by the company (cited in Pollitt, 2002, p. 23).
Another added benefit the company received is that the management team has continued the professional relationships developed as a course of having managers from various departments and areas learn and share their personal experiences in a social learning setting. It is obvious that organization that provide and support adult behavior such as giving them responsibility for subordinates and being the caretakers of the company for future employees experience more stable adult education outcomes. Companies that include a reasonable attempt to cover the gaps in employee adult development fair better results from their training and development efforts.

Although, training falls under the umbrella of education and the training of adults fall under the umbrella of “adult education,” some scholars continue to divide the two into separate fields and on occasion set the two as competing fields. The division of adult education and training was evident in the 1920s as illustrated by Bloom’s recount of correspondence between A. J. Muste, chairman of the faculty at Brookwood Labor College and an associate.

In December 1925 A. J. Muste, chairman of the faculty at Brookwood Labor College, received a letter from his friend Norman Thomas asking his opinion of “these conferences on adult education being promoted by the Carnegie Corporation." In his reply, Muste reported that he and Arthur Calhoun, Brookwood's Director of Studies, had just returned from one such meeting in New York City. "We here at Brookwood are very doubtful indeed whether we are going to go along with the American Association for Adult Education, which it is expected will spring out of these conferences." Those present at the gathering, Muste went on, "pretty definitely represent a point of view, whether conscious or unconsciously. That point of view is not the same as ours." A little more than a year later, Calhoun put it more sharply at Brookwood's annual conference of teachers in workers' education: "There can be nothing but war between the Adult Education movement, with its 'civic' aims, and the Workers' Education movement, with its class mission." (cited in Rose & Jeris, 2010)

Although it is difficult to describe any training whether work related or otherwise, as being based on anything but education and adult training as adult education, the distinction is created and adopted by some scholars as if adult training can be accomplished without the adult participants learning. For the scholars that see the proper hierarchy of the topic Training is a subcomponent
of education and adult training is a subcomponent of adult education. To place adult education and adult training in a competing set is to render training as not having what the dictionary of psychology defines education as:

The development of knowledge, attitudes, and habits of behavior are often the result of formal instruction. 2. The institutional procedures which are employed in accomplishing the development of knowledge, habits, attitudes, etc. Usually the term is applied to formal institutional, procedures—sometimes to self instruction.

The idea of having training as a subcomponent is not new, for example the University of North Texas’ applied technology, training and development degree programs all were once held as degrees offered under the banner of the College of Education. During the application process for degree recognition by respective accreditation committees, it is certain that the justification of and the need for the degree was based on the need to further advance the knowledge and application of a specific area of education. Yet, despite the obvious intent for training, and for the most part development, to be a subcomponent of education, some scholars have lost faith in their craft and replaced it with what can only be described as ignorance.

The topic here is training and development and the knowledge that should be common, but has for a large part ignored, is that Training is a subcomponent of education and the science of education, in terms of humans, are currently divided into two methods:

1. Pedagogy- the science of educating the child and/or adolescent student; the science of education, its goals, methods and results.

2. Andragogy- the body of knowledge that describes the education and learning of adults; the science of adult education, its goals, methods and results.

It would be irresponsible and misleading to represent training as if it could be successfully performed without the methodological use of andragogy.
The goal here is to improve an educational tool and its use/appropriateness for educational use and related subsets, including training. The specific area of improvement in the efforts of applied technology, training and development is to provide users precedence to support the use and appropriateness of andragogy as the technological method of choice for training and development efforts.

In considering the belief that it is more effective to have individuals perform in some form of self-development it seems reasonable to expect individuals to be ready for such participation. Considering the reasonableness of this belief and the goal of training, development, and adult learning and education, it is asserted that having a diverse workforce that actively and deliberately participates of their own free-will would best assure that adult education efforts promote an ability to adjust to changes and to the associated optimal use of resources (Bhatnagar, 2005; Cunningham, 2004; Howard, 1989; Scanlon & Mellard, 2006; Sleezer, 2004; Tucker, 1985; Warr & Birdi, 1998; Yang, 2004). Furthermore, education practices should be conducted under the pretext that adult behavior is not purely recognized by the act alone, but in conjunction with what a given society expects of its adults (Miller, 1978; Paterson, 1979; Rice, 1992; Steinberg, Greenberger, Jacobi, & Garduque, 1981). In reference to Canada’s state policy of lifelong learning Ng & Shan critique lifelong learning as being…

“focused on the neo-liberal underpinning of stat policy, where individuals are expected to take responsibility for meeting the needs of changing labour market conditions in the post-fordist economy” (Ng & Shan, 2010). For these reasons, the social interpretation of the individual’s act and given situation is essential in determining adult behavior as supported by research findings (Skilton-Sylvester, 2002).
The importance of social interaction in determining and carrying out adult behavior is best illustrated in reference to the difference between childhood and adulthood. It has been argued that the main difference between childhood and adulthood is the level at which social implications and expectations are considered in the cognitive processes (Erickson, 1959, 1963, 1982).

With consideration for social interaction, it is suggested that society’s expectations put great pressures on what is actually done (Goto, Spitzer, & Sadouk, 2009; Li-Kuang, 2009; Rice, 1992). In terms of education, Darkenwald and Merriam (1982) termed these social pressures for normalcy in socially desired education participation behavior, “learning presses.” Having knowledge of learning presses and of what allows these learning presses to stimulate a readiness to participate may be significant in understanding why some people respond differently, such as their differences in the probability of non-compulsory participation. One such construct of learning presses is meeting the expectations of attaining adult status.

In the United States, expectations for individuals to be thought of as an adult are based on their being of certain age; being responsible; being of certain educational background; having generative drive; being socially committed; and being stable in social contributions and self-support. Although cultures may differ in specific measures of the socially required acts (i.e., finding game to hunt over finding a job) to be considered an adult, the constant across societies appears to be the extent to which an individual becomes able and willing to consistently and effectively contribute to the social whole (Collins, 1996; Gvaramdze, 2007; Hoffman & Manis, 1979; Inhelder & Piaget, 1958; Nelson et al., 2007; Neugarten, 1979; Rogers, 1996; Schlegel, 1998; Wang & Morgan, 2009; Youniss, 1999). Ironically, the social requirements to prove
adulthood are guarded and restricted by the respective societies (Gvaramadze, 2007; Rice, 1992) so that only those deemed ready can prove worthiness.

Significance of Study

The understandings of adult behavior and possible associated controls are discovered through psychology (Ripple, 1964). Also, as suggested by Rowland, psychologies should study the functions of consciousness and how these cognitive functions allow individual adjustment to the environment (as cited in Angill, 1907). The importance of andragogy practices is emphasized by the notion that “we are also increasingly likely to be involved in more formalized forms of learning – that is, in education and training – both immediately after we have completed the compulsory education period and throughout the rest of our lives” (Tight, 2002, p. 1).

This study addresses Ripple, Rowland, and Tight’s ideas in relation to adult education by assessing the existence of differences between how groups of varied demographics respond to social environment situations that represent, promote, and/or allow self-development after and to the exclusion of compulsory education. This study is based on the notion that the goal of structuring adult education is to administer and distribute the appropriate educational processes and content (respectively) to appropriate groups while maximizing rates of returns. A proper theoretical view of aligning adult behavior with a desired training based target behavior, calls for a framework that can embody demographic variables that provide some assurance that participants are indeed adult. A framework that recognizes individuals who are subject to the external stimuli of societal influences and expectations in conjunction with having the ability to convert such external stimuli to internal motivators including the proposed desired training based target behavior, the full acceptance and transference of intervention efforts.
Theoretical Framework

To represent their beliefs in the area of adult education participation, Darkenwald and Merriam (1982) introduced their psychosocial interaction (PSI) model (see Figure 1) illustrating participatory behavior as determined by a continuum of responses to internal and external stimuli. According to the model, the degree of probability of participation is dictated by external stimulus variables such as socioeconomic status; internal stimulus variables such as perceived value of participation; inhibitors as barriers to participation; and a readiness to participate.

Building from andragogy theory assumptions, Darkenwald and Merriam (1982) include psychosocial factors that affect the probability of participation. According to Merriam and Leahy (2005), a major link between adult development and adult learning is embedded in the assumption that adults are self-directed beings who are the products of an accumulation of unique and personal experiences and whose desires to learn stem from a need to face tasks they encounter during their developing lifespan. To capture both the essence of the individual and the social environment, the PSI model is divided into two segments: pre-adulthood and adulthood, as shown in Figure 1.

In the pre-adulthood phase, individual and family characteristics set the pattern for becoming an adult. Pre-adulthood is concerned with the initial individual and family, the individual just prior to reaching adulthood. Included in the pre-adulthood phase is the development phase of gender, IQ, and parental socioeconomic status (SES). The pre-adulthood phase is also concerned with the socialization of the individual for the given society. Of particular importance and relevance to the model is prior education, the precursor to adulthood interactions because it is believed that the amount, quality, and value of education the individual
receives during the pre-adulthood phase greatly affects the SES of adulthood and more so when parental SES is lacking (Darkenwald & Merriam, 1982).

The adulthood phase comprises six components, which can be rated as high, mid-level, or low. Socioeconomic status (SES) is considered first and is the dominant influence in the model. The notion of applying the PSI model to a capitalistic society asserts the importance of SES in the model. The value one places on self as a part of a capitalistic society is directly related to his or her personal socioeconomic status. The model suggests that as a person’s self-efficacy and esteem go so does their view of personal contributions to society. Related to SES is learning press. Darkenwald and Merriam (1982) described learning press as “the extent to which one’s total current environment requires or encourages further learning” (p. 142).

Learning press, also a form of participation stimulus, has an effect on the perceived value and utility of adult education. That is, if the current environment requires learning, the perceived value of education should be correspondingly high and vice versa. Learning press, best described as societal and cultural pressures to learn, are resultant stressors from social and cultural expectations of participation. As key to the functionality of the PSI model, the culture or social climate that supports and/or promotes the participation in adult education does so as a result of society’s effect on the psyche. In short, social beliefs are adopted by individual societal members, and the related actions are carried out because of the need to be viewed in a desirable perspective by cultural peers.

The perceived value and utility of education consequently initiate a readiness to participate. Darkenwald and Merriam (1982) contended that a readiness to participate must be “activated by one or more specific stimuli before participation can be expected to occur” (p. 144). Darkenwald and Merriam’s model stimuli can be external, such as a life transition event, or
internal, such as a desire for self-fulfillment. For example, the need to better prepare oneself to
tackle the care for a special needs child may stimulate participation in parental care class; the
need to learn how to drive so that one may safely and reliably reach a place of employment may
prompt the enrollment into driving classes; the need for a line worker to be certified in a given
area or technique to perform a given line task may prompt the enrollment in a course of assembly
techniques to become certified; or the motive to be admired by peers may drive educational
advancement in hopes to better chances for promotion. The model indicates the relationship
between the intensity of learning press and the frequency and intensity of participation stimuli
being filtered by perceived values and utility of adult education and readiness to participate
levels.

Finally, the motivation to participate may be inhibited by barriers such as lack of
information, difficulty in enrolling, and lack of money. The magnitude of these barriers is
believed usually to be inversely related to SES (Darkenwald & Merriam, 1982).

In the interest of understanding the United States educational efforts and related results
pertaining to non-compulsory adult participation in training/learning and or development, the
question is this: Is there an opportunity to test the alignment of the practices of adult education
with andragogy theory, specifically the adult’s need to be self-directed, a responsible decision
maker, and caretaker of his or her own advancement? This study uses the psychosocial

Figure 1. Psychosocial interaction model..(Darkenwald & Merriam, 1982, p. 143).
interaction model in detail to explore differences in adult education participation, the cognitive
and physical act of non-compulsory adult education participation in relation to variables of
determining adulthood.

The linkages between psychosocial factors and selected demographics are realized in
terms of individual motivation. Under Darkenwald and Merriam’s model normal occurrences of
human situation during the course of development are drivers of psychosocial factor
developments. These situations occurring during a normal lifespan are milestones which society
uses as markers for an expected behavior (Kornblum, 1998).

Under the psychosocial interaction model, some demographics are identified as initial
individual and family characteristics and preparatory education and socialization (see Figure 1).
For this study the two pre-adulthood factors are presented by their influences on the psychosocial
interaction model’s adulthood phase factors in which psychological factors influence an
individual’s cognitive processes and demographic factors translate into the individual’s
adulthood demographics.

The integration of demographics, as an aggregate representation of the socially accepted
adult, into the psychosocial interaction model showing motivational relations provides an
illustrated flow of behavior development based on the demographic make-up and cognitive
behaviors of the individual and society (see Figure 2).
Figure 2. Theoretical explanatory view model for psychosocial interactions.

The theoretical flow of interactions between psychological processes and social factors of the model illustrated by theoretical explanatory view model for psychosocial interactions in Figure 2 are described as followed:

Preadulthood phase (denoted by dotted boxes):

a. Initial individual and family characteristics (II&FC) are demographics (i.e., Sex, Ethnicity, IQ, SES) inherited or obtained by the individual prior to adulthood. Considered as the “hand a person is dealt,” these demographics can be used in aiding or limiting efforts later in the individual’s lifespan as they influence the demographics of the individual.

b. Preparatory education and socialization (PE&S), in terms of amount, quality, values, and aspirations are social adjustment functions that influence the individual’s integration into society, understanding of his or her place, and how to interact in a given society.

Adulthood phase:

1. Based on the social views of relevant demographic variables (DV) society attaches certain socioeconomic status (SES) to individuals that are described by these variables.
Being labeled and categorized into a certain SES group influences the way society sees the individual by influencing the social views (SV) of society members.

2. Social expectations (SE) of an individual are influenced by the social views (SV) of the SES of which the individual is a part. The SV/SES interaction with SE allows society to carry out certain behaviors with individuals of an assigned SES.

3. Social expectation (SE) influences society’s behavior of placing learning pressures (LP) upon the individual. As a result of early life (childhood) socialization and other social adjustment functions, the personal expectations (PE) to meet SE encourages individuals to recognize, accept and make LP a reality.

4. Social expectation (SE) influences a person’s self-image (SI) as the individual must evaluate his or her capability to meet these expectations.

5. Individual evaluation of their self image (SI) or the image he or she wants to have influences their personal expectation (PE) in effort to obtain that desired image (such as being a consistent, positive, productive contributor to society).

6. The difference between a person’s self image (SI) and their personal expectations (PE) offers a measurement of their readiness to participate (RtoP) in a given activity: where an excess of SI is an indication of being ready or confident in being successful in participation efforts.

7. Society’s decision to value a target behavior (TB) [in this case training/learning and or development participation] and the individual’s acceptance (acculturation) of such social views (SV) influences the perceived values and utility (PV&U) of succumbing to learning pressures (LP).
8. The perceived values and utility (PV&U) of succumbing to learning pressures (LP) influences participation stimulus (PS).

9. The choice to participate in TB is influenced by both: the feelings of readiness to participate (RtoP) and experiencing an adequate participation stimulus (PS).

10. Participation stimulus (PS) could also be influenced by demographic variables (DVs).

11. Certain demographic variables (DVs) can be a direct result (DR) of TB (such as past education success).

12. Certain demographic variables (DVs) can have a direct need (DN) that may directly influence participation regardless of other social interactions except barriers (B).

13. Although barriers (Bs) can influence the obtaining of some demographic variables (DVs) some DVs can actually be Bs. DV can also affect barriers, including those capable of influencing the obtaining of DVs.

Purpose of Study

The purpose of this study is to determine and analyze whether there are demographic differences between participants and nonparticipants of non-compulsory education, learning, and training and development opportunities. With an aim toward improving adult education programs’ quality and effectiveness, seven demographics, age, prior education success levels, being in a position of having subordinate responsibility, having child-age dependents in the household, marital status, presence of employment stability, and homeownership is employed as independent variables for their representation of influences and determinants of adulthood.

This purpose is accomplished by examining the differences, within common demographics that society typically associates with adulthood, between participants and nonparticipants of non-compulsory adult education. The expectation is that individuals who
enter into adult demographic sets behave differently from those who have not met society’s requirements for adulthood.

Research Question

This research answers the question whether there are differences between participants and nonparticipants of non-compulsory education, training/learning and or development opportunities when analyzed for social-based adult demographic variables.

Hypotheses

To answer the research question this study analyzes the following hypotheses.

Hypothesis $H_0$: There is no significant dependence on independent variables (age, prior education success level, having subordinate responsibility, having a child-aged dependent in household, marital status, having employment stability, and home ownership) by the dependent variable to discrimination between respondents who are participants and nonparticipants of non-compulsory education, training/learning and or development above that which would happen by chance prediction.

Hypothesis $H_1$: There is significant dependence on independent variables (age, prior education success level, having subordinate responsibility, having a child-aged dependent in household, marital status, having employment stability, and home ownership) by the dependent variable to discrimination between respondents who are participants and nonparticipants of non-compulsory education, training/learning and or development above that which would happen by chance prediction.

Delimitations

The delimitations for this study are identified as the following:
1. Study data being collected using telephone-based interviews and thus the limiting random sampling to individuals accessible by phone.

2. Study not accounting for instances of more than one count of participation.

3. Study did not employ probing methods on how social interactions relate to participation choices.

Assumptions

This study was conducted under the following assumptions:

1. That intentions, as precursors to behavior, are inherently true of given behavior(s) and result from being ready to perform the behavior (Darkenwald & Merriam, 1982).

2. That deliberate behavior is intentional behavior (Darkenwald & Merriam, 1982).

3. That anonymous participation is enough to warrant at least a minimum level of honesty in survey responses (Ary, Jacons, & Razavieh, 1990).

4. That people performing a non-compulsory behavior have a positive attitude toward the behavior’s value (Darkenwald & Merriam, 1982).

5. That “adults” intend to be self-directed beings that are the products of an accumulation of unique and personal experiences and whose desires to learn stem from a need to face tasks they encounter during their lifespan (Knowles, 1982).

6. That adult belief is that adult education will positively affect one’s situation. (Darkenwald & Merriam, 1982)

7. That participation in a behavior is due, in part, to believed and actual control to perform a behavior (Darkenwald & Merriam, 1982).
Definition of Terms

Acculturation - the process by which individuals learn the behavior patterns, characteristics, and expectations of a group.

Adult - individuals regarded in a positive way by society, in terms social development and or acculturation.

Adult demographics - individual standards of “demographics” that the given society uses and accepts as characteristics of an “adult.”

Adult education - the procedures that develop or change knowledge, skills, abilities, attitudes, habits, and behaviors of individuals who have reached mature mental and physical levels.

Adulthood - the state of being an adult.

Andragogy - the body of knowledge that describes the education and learning of adults.

Behavior - any act intentionally or instinctually carried out.

Capitalism - a form of economic organization based on private ownership and control of the means of production (land, machines, buildings, etc.); an ideology based on the value of individual rights; stratified social structure based on individual contributions to the social whole.

Change - any variation or alteration in form, state, quality, or essence.

Compulsory - exercising compulsion; compelling; mandatory.

Development - the changes that occur as a function of growth within an organism.

Education - the procedures that develop or change knowledge, skills, abilities, attitudes, habits, and behaviors.

Non-compulsory - voluntary; free from repercussion being linked to response.
Training- the systematic process of prompting a specific outcome of a trainee.

Initiative (change initiative)- any act of creating change.

Intervention- a procedure of aiding in the changing of behavior(s).

Learning- the act of forming permanent changes in cognitive and/or physical behaviors.

Learning transference- the act of taking what is learned and applying it in real situations.

Operational definition (OD)- the assigned meaning to a construct or a variable by
    specifying the activities or “operations” necessary to measure it.

Pedagogy- the science of educating the child and/or adolescent student.

Psychosocial- pertaining to social relationships that involve psychological factors.

Psychological modifiers- any phenomenon which influences psychological processes.

Psychological processes- mental acts carried out in response to stimuli.

Social adjustment function- creation of a feeling that one is a part of a social community.

Socioeconomic status (SES)- the social and economic position held in a given society.

Social nexus- the phenomenon which afford society a connection or link as stakeholder.

Target behavior- the desired behavior or output of an object of study.
CHAPTER 2
LITERATURE REVIEW

Introduction

This chapter provides a review of literature concerning the theoretical basis for the study. The review covers literature of research demographic variables: age, prior education success levels, being in a position of having subordinate responsibility, having child-age dependents in the household, marital status, presence of employment stability, and homeownership as they relate to its theoretical relation to non-compulsory adult education participation.

Age

As distinguishing factors of contributing to character and related behaviors, the possible study demographics are as varied as the number of those being observed. One such demographic variable is age (Macleod & Lambe, 2008). Age is reshaping the lay of the education field, by adding to the diversity of those participating. “For example, statistics suggest that in the United States, the proportion of students over the age of 25 has increased from 28% in 1970 to 39% in 1999, and that this may exceed 50% by 2012. In the United Kingdom in 2003, 52% of all new 1st-year undergraduates were over the age of 21…” (O’Donnell & Tobbell, 2007, p. 313).

It is widely believed that older workers undertake less formal training than younger ones. As found by Elmand and O’Rand (2002), this pattern is not always the case. Elman and O’Rand found that the negative correlation between age and education participation was accounted for in the presence of motivation for learning and high education levels. The researchers also found that age had a positive relationship with participating in voluntary development. Warr and Birdi (1998) attempted to determine the relationship between age and voluntary development activity. The study was conducted on a sample of 1,798 manufacturing workers made up of 95% males,
with an average age of 38. The typical schooling level was low, with 33% having no formal education. Age and 10 other variables were examined against four types of development-related activities. Warr and Birdi’s findings showed that older employees were less likely to participate but also showed a positive relation to partaking in the variable representing the employee development center. Participation in voluntary development was higher among the more educated and those who scored high on the overall motivation for learning scale. The researchers report that the two factors higher education and overall motivation scores accounted for the age difference and that their findings suggested that there may be mediating variables associated with age.

In conducting a qualitative study based on semi-structured interviews of 36 elders in Spain, researchers found the participant answers to be more expressive (motivations that are restricted to the process of learning, and include learning for learning’s sake, a cognitive interest in the subject, and feelings of satisfaction and self-development) than instrumental (external motivators located beyond the learning process and related to obtaining qualifications) in their reasoning for participating in a university program. The researchers says, “Most older people, especially those younger than 80, show an acceptable level of autonomy and health, and are usually highly motivated to perform activities and find time needed to carry them out” (Villar, Triad’o, Pinazo, Celdran, & Sole, 2011, p. 245)

Prior Education Success

Cutz and Chandler (2000) found that some of the most basic adult education behavior and perceptual prerequisites to learning are affected by cultural idiosyncrasies. Some of the research findings include the cultural preference for work over learning, a lack of value in progress, views
of schooling as being humiliating, and a possible cause of identity loss within their culture prohibits some adult from attending any form of educational function (Cutz & Chandler, 2000).

Research results suggest a strong relation between self-esteem and participation in adult education programs (Beder, 1990; T. Darkenwald & Valentine, 1985). Self-esteem, per the literature, has been divided into several subsets and altered states of phenomena. Research on the effects of self-esteem or factors of having lack of confidence suggest that reasons for low self-esteem are related to past learning experiences (T. Darkenwald & Valentine, 1985).

Ramsay (2004) found that, in general, barriers for adults to participate in higher education may be related to a lack of previous educational success, manifesting in an aspect of their personal learning identity. In describing adults pursuing a college career, O’Donnel and Tobbell (2007) added, “Addressing these issues of early failure through a bridging course which helped students to recognize that their social and economic circumstances were socially constructed rather than caused by any individual lack of ability significantly eased the transition to university” (p. 326). Darkenwald and Valentine (1985), in studying deterrents to adult education participation, found that the strongest correlating variable for deterring adult education is the lack of confidence.

The adult education process may also be hindered by the views of self-esteem held by instructors in adult education settings. It is hypothesized by Beder (1990) that the instructors of those who are perceived as having low self-esteem may educate the learner in a condescending manner. A practice of talking down to the level of the proposed lesser educated directly contradicts the andragogy methodology used in adult education. Brookfield (2002), in reference to overcoming alienation as the practice of adult education, suggests that the theoretical basis for adult education is based on humanistic psychology:
To contemporary adult educators, humanism is a benign, friendly word associated with notions of self-actualization or self-fulfillment and drawing on Rogers, Maslow, and Allport. A humanistic perspective on adult education is usually interpreted as one that emphasizes respect for each adult learner’s individuality and that seeks to help the individual realize her or his potential to the fullest extent possible. There is little attention to the political underpinnings of adult education practice and the way political economy makes self-actualization a luxury for a certain social class. (p. 98)

Other researchers, also addressing a diverse participation in education, draw attention to place-conscious education (Gruenwald, 2008). In an attempt to contribute to the theory of place as a multidisciplinary construct for cultural analysis, Gruenwald also points to a lack of pedagogy practice that addresses differences between perceptual, sociological, ideological, political, and ecological attitudes, caused by culture and ecological “place” (Gruenwald, 2008, p. 621). Researchers of related studies show that social interaction have significant influence on learning outcomes. For example, by studying participation within a Parent program for Children’s Aggression Levac, McCay, Merka, & Reddon-D’Arcy (2008) found that mechanisms of change (learning) were more a result of participants feeling socially accepted and supported rather than being blamed by the professionals.

As expected, research supports the common idea that participation in adult education to be less for those with the least education as compared to adults who possess a high school or equivalency diploma. By studying adult participation in informal learning situations Smith, & Smith (2008) found that based on the National Household Education Survey Adults with low education tend to be more active in informal education settings, suggesting that the lower participation traditionally believed may be due to the learning structure rather than the individual’s choice.
Subordinate Responsibility

Subordinate responsibility is recognized here as having recognition and acceptance that personal performances influence and/or affect the performance of others. The idea is that, if one recognizes and accepts that a subordinate’s performance is directly related to personal effectiveness, action will be taken to improve or develop self in an effort to increases the chances of subordinate successes. While no literature was found to specifically measure or analyze the relation between subordinate responsibilities (accepting the perception of self-development as having influence on subordinate performances) and participating in adult education, the general literature on adult development, various roles and identities, and the negotiation of specific life tasks provides a generalized foundation for responsibility-acceptance-driven behavior.

According to the literature of human development, by the end of adolescence individuals should have developed an ability to consider self as being a part of and affecting a larger community (Havighurst, 1972; Gilligan, 1977; Kohlberg, 1969; Levinson, 1986; Vaillant, 1977). Adult psychosocial and development needs suggest a pattern of growth from self-centeredness to generativity, accepting the responsibility of next-generation growth and success (Erikson, 1982).

Vaillant (1977) conducted a longitudinal study of 94 males selected from the 1938 Grant study to provide a long view of the maturation process, ego development, and life challenges adaptation and coping mechanisms. The study results support Erikson’s (1963) developmental tasks theory. Some respondents of the study were found to be successful in life while others became locked into a pattern of defeat. The most interesting result found that 93% of respondents in a position of little supervisory responsibility were identified as experiencing life as one of the worst outcomes. The next highest, with 57% of worst outcome respondents, is bleak friendship patterns at age 50.
Schaie and Parham (1974) conducted another longitudinal study of social responsibility. The study consisted of 161 subjects aged 21 to 84 years from a population base made up of 18,000 members of a prepaid medical plan. A questionnaire scale measured social responsibility. The study also conducted similar analysis on three independent random samples totaling 2,151 responses. The analysis of samples used repeated measurement to examine for correlations between ontogenetic and sociocultural changes over two 7-year periods. The social responsibility scale was measured as part of the SRA primary mental abilities test, the test of behavior rigidity, and a socioeconomic status questionnaire.

Schaie and Parham (1974) found the social responsibility measurement to be erratic. The initial cross-sequential repeated measurement analysis of variance suggested that older respondents scored in a more socially responsible direction. It was also found that the sociocultural change interaction with age was significant. Of the nine sections of age, the first two and last four followed a direction of greater social responsibility, while the three age groups in the middle decreased in social responsibilities. The authors found a significant sex/time interaction, with males reporting increased social responsibility and females reporting a decreased responsibility over the 7-year period. The initial results could not be replicated. For instance, the second longitudinal sample showed a significant sex difference, with females scoring higher overall than males.

The cross-sequential analysis of variance reported highly significant sex differences, with males having a greater overall social responsibility scoring. The results indicated that older males were more socially responsible than younger males with the opposite result for female respondents. Within the time-sequential analysis, in the absence of ontogenetic and sociocultural shift effects, Schaie and Parham (1974) found women to be more socially responsible than men.
It was also found that an overall drop in social responsibility attitudes occurred during the first 7-year span and stabilized in the second 7-year period.

With an expectation of variation in generativity observations, Kleiber and Nimrod (2008) elected not to attempt a research across a full cross-section of society in favor of a group that makes generativity behavior more likely to occur. Kleiber and Nimrod restricted the population to 300 members of a Learning in Retirement (LIR) chapter in a mid-sized southwestern U.S. city. Of 47 volunteers, the sample selected consists of 20 respondents to a notice placed in the RIL monthly newsletter.

The study data were collected by interviews recorded to audiotapes and transcripts (Kleiber & Nimrod, 2008). Audiotapes and transcripts were used to analyze descriptions of circumstances of respondents’ retirement (when, from what occupation, and why), how their activities have changed since retirement, why and how they became involved in such activities, what they liked about the activities, and its meaning to them.

Kleiber and Nimrod (2008) analyzed the interview data to discern statements with predefined categories of generativity from previous studies: one offering services to help, provide for, or educate others; two creating objects that were intended to be enduring, maintaining and protecting resources; and several (3) that seemed to combine more than one goal. Of the 245 discretionary post-retirement actions reported, 87 were identified as instances of behavior including one of the three notions of generativity. Eleven of the activities reflected combinations in which none of the three categories of generativity was dominant. It was found that each of the 20 respondents had reported at least one action categorized as one of the generativity behaviors.
The resulting tabulations reported that volunteer work accounted for 25, creativity work/professional activity accounted for 23, association involvement was reported 18 times, and property development reported only 6 of the 87 identified generativity activity responses (Kleiber & Nimrod, 2008). Political involvement, charity, and religious involvement were less frequently mentioned. Kleiber and Nimrod also concluded that respondents’ actions were based on rewards explicitly stated and implied as well. The authors felt it was clear that feelings of helping, of giving back, and of building something were usually also associated with feelings of enjoyment and competence as well as providing a sense of social connectedness.

**Having Child-Aged Dependents in Household**

Another revered characteristic of an adult is childbirth. Since no determination of actual birthing, adopting, or inheriting is being made here, the variable of having a child-aged dependent is used to account for a more diverse family setting or make-up. If child care (such as protecting, developing, and providing for) is a significant driver of behavior, the idea of adult education participation being encouraged by having a child-aged dependent may have one of the most direct link occurrences.

Poor participation and high attrition rates are particularly apparent in research using low-income families of color. Low-income parents of color are interesting subjects of child rearing and motivation studies. It is within this population and situation that the strength of correlation should prove most significant. If proper child rearing is the goal or a significant driver of behavior, participation in parenting classes should prove high in attendance. The level of motivation and mediating barriers to participation in learning programs offers researchers a sampling which may allow the pinpointing of specific drivers of parenting education action. For example Myers et al. (as cited in Gross, Julion, & Fogg, 2001), reported one study of an effective
black parenting program having a participation rate of 13% and attendance rates for group meetings as low as 33%. Myers et al. examined the participation of low-income urban parents of color in a parenting class. The study population was estimated at 402 families with a median income of $13,500, and 80% being single parents. Approximately 60.5% of the population was African American, and 33.1% were Hispanic. The sample selected consisted of 155 families representing intervention families that consented to participate in one of the parent training groups. The 155-sample respondents’ demographic breakdown was 66% African American, Latino (10% Mexican American, 5% Puerto Rican, and 8% other), and 5%, other. The mean parent’s age was 27.8 and mean children’s age was 2.5 years of age.

Baseline measure results of respondent-based focus groups was centered on life’s stresses, dealing with child behaviors, guilt for lack for patience with child, and child’s well-being (Gross et al., 2001). The respondents reported that they would participate if the program would help them with parenting, if the sessions were held in the evening, and if parents were able to exchange ideas and experiences with others. Other incentives added to make participation a bit easier included giving parents $30 for each complete set of assessments (four over 15 months), having parent group meetings at the daycare of their child, providing free daycare for the target child and siblings during parent groups, providing dinner for parents and children, holding parent group meetings on weekday evenings, and reimbursement for cab fare home if parent did not wish to take public transportation after dark. After interviewing respondents for any other incentives they would consider in deciding to participate, the authors determined incentives to be the following: program offered on site; personality of recruiter; free childcare; copy of video play session; program on weekday evenings; printed advertisements; dinner during parent groups; prior contact with research team; cab fare home; and $30 assessment completion.
Myers et al. (as cited in Gross et al., 2001) found, in the 12-week program of weekly sessions, the average attendance of the sampled 155 parents was 5.45 sessions. Respondent attrition rate (fewer than two sessions attended or was not available for post-intervention assessment) rate and low attendance (two to five sessions attended) was 26.5%, and high attendance (six or more sessions attended) rate was 47%. Attrition was found to be related to relationship status. Respondents of partnered relations were significantly more likely to drop out than those married, single, or foster parents. Parents chose to participate in the program because they wanted to learn about children at this age, to share experiences with other parents, and to help dealing with their children’s difficult behaviors. Parents’ most frequently reported expectations for participating in the program were improvements in discipline strategies (27.1 %), greater understanding of child behavior (27.1 %), help them be better parents (16.8 %), provide support (5.2 %), and help manage stress (4.5 %).

The findings of Myers et al. (cited in Gross et al., 2001) suggest that low socioeconomic group parents sign up for parent training groups because they want to be better parents. Participation was also found to be driven by expectations of the program to achieve its goals of improving the quality of parent-child relationships, reducing child behavior problems, promoting use of positive discipline strategies, and improving parenting self-efficacy.

In another research study, Haggerty et al. (2002) looked at predictors of attendance of parenting workshops. The workshop was a school-based multi-year intervention that sought to promote positive youth development and prevent problem behavior among children recruited in the first or second grade of elementary school. The primary components of the intervention included in-home services for high-risk children and their families and parenting workshops for parents with students attending intervention schools through the 5th year of the project. The study
A sample consisted of 272 families with a student who remained at an intervention school through the first 5 years of the project. Variables that were considered as predictors of parent attendance, including social demographics, parent, and child characteristics, were analyzed using bivariate and multivariate associations between predictor variables and parent attendance.

Eighty percent of the 272 families had a parent attend at least one RHC parent training session within the first 5 years of the project (Haggerty et al., 2002). The mean number of sessions attended was 5.64. For many families, this represents attendance at multiple sessions of one or two different workshops. The mean number of different workshop series attended was 1.86, and 71% of families had a parent attend no more than two different workshop series.

The greatest finding, although modest, was the positive association between parent report of child’s antisocial behavior and attendance, suggesting it is likely that parents attended parenting workshops in order to learn strategies to manage their children’s disruptive or aggressive behavior. Haggerty et al. (2002) also found that highly educated parents appear to be slightly more receptive to interventions that involve group workshops in a school setting. None of the other indicators of family risk level was associated with parent participation in the workshops.

Marital Status

The importance of ego-resiliency in development theory is significant in understanding what causes individuals to construct a coherent, grounded, and positive identity. The formation of adult personalities is the result of many factors. Pals (1999) conducted a longitudinal study of identity consolidation during early adulthood (conceptualized at age 21 to age 27). Pals researched marriage as an important identity context. Building from general human and adult development (specifically early adulthood) theories, Pals explored how identity development is a
consolidation of processes and outcomes and specific outcomes past adolescence into early adulthood.

The sample consisted of women, predominantly White, middle-class college seniors (Pals, 1999). Data collection points were when respondents were college seniors of 21 years of age and again at age 27. Of the total valid sample of 96 women, 78 % were married at time of the age 27 data collection, 64 % had at least one child, and 52 % were involved in paid work. A second set of analyses included a core sample of 58 married women who had completed data for critical measures. Critical measures are recognized as identity consolidation, identity-in-marriage prototypes (Anchored, Defined, Restricted, and Confused), and self-report measure of ego-resiliency.

The data analysis revealed that women who were high in identity consolidation were more adjusted to the requirements of adulthood such as having less marital tension if married, being positive about mothering, and being satisfied with their work (if working) and their life’s direction (Pals, 1999). The respondents with high identity consolidation were neither more nor less likely to be working or to have children, and they were only marginally more likely to be married.

Women who scored high on identity-in-marriage prototypes were more progressive and individualistic in life structure and personality than the women scoring high on the defined prototype, who were more traditional (Pals, 1999). The anchored prototypes were positively correlated with working, having career goals, and individuality and negatively correlated with having children. High scores in defined prototype were associated with being satisfied with full-time mothering and negatively association with having career goals. Both restricted and confused prototypes were positively correlated with high negative emotionality and low well-being.
The Pals (1999) study suggests that as women progress accordingly by adapting and accepting adult life roles, they show a greater satisfaction with their lives and its progress and direction. It was also found that, although each prototype demonstrated a coherent and distinctive pattern of correlates, their influence on identity consolidation was not entirely independent of each other. In addition, regression analysis shows that individual differences in identity consolidation were predicted by ego-resiliency, identity in marriage, and their interaction and association with change in ego-resiliency.

Contrarily, researchers such as Arnett (1998) have sought to expand on the understanding of marriage as a necessity for attaining adulthood. Arnett points out that in traditional cultures the transition to adulthood culminates in marriage and the typical marriage age is approximately 16-18 for women and 18-20 for men. “The median age of marriage began to rise steeply, and by the mid-1990s had reached its highest level ever in American society (age 24.5 for women and 26.7 for men by 1994)” (p 7). Arnett asserted the findings of several recent U.S. studies “that for contemporary young Americans the preeminent criteria for transitioning to adulthood are the individualistic character qualities of accepting responsibility for one’s self and making independent decisions, along with becoming financially independent; marriage, in contrast, ranks very low” (p1).

Presence of Employment Stability

According to Lewin (as cited in Gold, 1999), social factors play a considerable role in educational setting and processes. The social climate and interactions with the learner can both inhibit and promote a given behavior (Gold, 1999). Against a background of continuing societal upheaval and environmental uncertainty and the apparent lack of commitment, voluntary personal development participation has been receiving the attention of researchers. For instance,
McCracken (2004) found that the intrinsic barriers related to a sample of 61 Scottish managers’ perception of the need for learning to be significantly important in predicting propensity to participate in learning activities. McCraken’s study also found noted external barriers such as poor organizational culture and lack of resources. The study suggests that, although important, external barriers’s effect on participation is significantly lower in correlation to propensity to participate in learning activities than intrinsic motivating factors.

McCracken (2004) also sampled 412 employees who had worked for at least 2 years in seven selected companies because it was presumed that time with a company was needed before an assessment of perception could be reliable. The researchers attempted to include companies representing a wide variety of industries. In the findings, the researchers reported that an employee’s perception of all work environment factors influences self-directed learning. It must be noted that the researchers reported that the correlation between perception and respondent behavior was without any regard to actual situation (McCracken, 2004).

Elman and O’Rand (2002) in establishing the basis of their study first determined that there is a positive relationship between job insecurity (stability) and participation in education at midlife. After establishing a significant relationship between job insecurity, the Elman and O’Rand, analysis of the National Household Education Survey study data suggest that in the presence of job insecurity the following occurs:

1. Lack of education during earlier years appears to be a disadvantage to participating in adult work-related education, specifically, individuals without a college degree are significantly less likely to participate.

2. Those with some college but no degree are most likely to participate.
3. People with technical skills as opposed to professional or managerial skills are more likely to participate.

4. Experienced workers are less likely to participate.

5. Highly educated and skilled workers are more likely to participate.

6. Those who experience employer support are more likely to participate.

7. There is an inverse relation between wage earnings and participation.

8. Those responsible for supporting themselves and families, those with young children are also more likely to participate.

9. Non-Whites are more likely to participate.

10. Women are more likely to participate than men.

11. There is a positive relationship between age and participation until age 52, when participation decreases with age. (pp. 67-68)

Home Ownership

Arnett (1998) found home ownership to be a main variable for the consideration of adulthood. Literature pertaining to home ownership and adulthood implies that a significant amount of home ownership’s correlation with achieving adulthood is its association with other aspects of attaining adulthood. For some, most important step to attaining adulthood is the establishing of a separate household from their parents (Condon, 1987). The act of acquiring a permanent home over renting sets in motion a chain of events that thrusts the adolescent further into adulthood. The acquisition of a home also offers a key piece to being stable, offering a significant element to active participation (Macleod & Lambe, 2008). Supporting Arnett’s findings, other literature suggests that the acceptance of responsibilities that accompany homeownership such as taking on a mortgage, maintenance, utilities (Havighusrt, 1972) the
opportunity to gain head of household role, provide a stable living arrangement for children (Rotundo, 1993), and establish a permanent-bond or marriage-type relationship with a prospective spouse (Condon, 1987) are significant contributions to attaining adulthood. The responsibilities associated with home ownership incorporate many of the necessities that require individuals to maintain a steady job.

Arnett (2000), in researching emerging adults found that of the 38 criteria use to determine adulthood, the top 10 included 3 (2 separating men from women perspective) that are directly associated with homeownership and another 3 indirectly associated with home ownership, and 1 not possible without establishing an independent-of-parent living arrangement. Arnett’s research also reports finding that 17 of the 38 criteria necessary for adulthood are the result of or are a necessity for successful homeownership.

Non-compulsory Adult Education Participation

Conventional ideology suggests that volunteer (non-compulsory) participants are internally motivated to attend training, with supporting research confirming that learning experiences yield better results when participation is voluntary (Bhatnagar, 2005; Warr & Birdi, 1998). In addition, adult education research is typically centered on accepted differences between adult and child education, specifically the needs of the adult learner (Knowles, 1980). Because of findings related to teaching methods, learning environment, mode of delivery, and reasons for participation that best promote adult learning (Tucker, 1985), the research community generally accepts andragogy as the complementary teaching method for adult learners (Cunningham, 2004; Howard, 1989; Scanlon & Mellard, 2006; Sleezer, 2004; Yang, 2004).

The interest in differences between compulsory and non-compulsory education exists as far back as 1965, with the survey of participation in adult education titled Volunteers for
Learning. Recent interest in determining a self-image as a medium for the development of behaviors for adulthood has encouraged researchers to examine the benefits of adolescent learning when coupled with volunteer learning (Barron, 2006).

Researchers have also investigated internal representations and preferential self as possible causes of participation differences. Self-esteem has been investigated for its relationship to learner achievement levels and, as with most educational research, much of the literature pertaining to self-esteem is researched as either a participation barrier or a result of a successful adult education experience (Beder, 1990; T. Darkenwald & Valentine, 1985; Hayes & Darkenwald, 1988). Based on the results of self-esteem studies, it appears that the literature supports the notion that of adult development, promoting a more healthy personality (Schultz, 1977), and self-actualized adults (Maslow, 1971) are the results of advancement of proper cognitive development (Erikson, 1959).

As an integrated function of the self-development actions of adults, self-directed learning research focuses on the process by which adults take control of their own learning goals, locate appropriate resources, and decide which learning methods and courses are to be utilized to optimize their learning. The literature of research and theories pertaining to self-directed learning has raised questions about the political dimensions of self-directedness and the need to study how deliberation and serendipity intersect in self-directed learning projects (Brockett & Hiemstra, 1991; Candy, 1991; Collins, 1996). As acceptance of self-directed learning takes hold, a growing question is whether participants are ready to participate in self-directed learning (Field, 1991).

A review of the motivation theories of Herzberg and Maslow suggests a support for each other, or an analogical relationship, as a human need descriptor (motivators) that acts to satisfy
corresponding needs. As shown in Table 1, satisfiers or motivators relate to Maslow’s higher order needs, while dissatisfiers or maintenance factors correspond to lower order needs. However, theories differ in one important respect with Maslow, believing that appeals to any level of need can act as a motivator (Reece & Brandt, 1987).

Table 1

Comparison of Herzberg and Maslow Theories

<table>
<thead>
<tr>
<th></th>
<th>Herzberg</th>
<th>Maslow</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Motivational Factors</strong></td>
<td>Working itself</td>
<td>Self-actualization</td>
</tr>
<tr>
<td></td>
<td>Achievement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Responsibility</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recognition</td>
<td>Self-esteem</td>
</tr>
<tr>
<td></td>
<td>Advancement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Status</td>
<td></td>
</tr>
<tr>
<td><strong>Maintenance (Hygiene) Factor</strong></td>
<td>Interpersonal relations</td>
<td>Love (belonging and affiliation)</td>
</tr>
<tr>
<td></td>
<td>Supervision-technical</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Company policy and administration</td>
<td>Safety and Security</td>
</tr>
<tr>
<td></td>
<td>Job security</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Working Conditions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Salary</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Personal life</td>
<td></td>
</tr>
</tbody>
</table>


Farr and Middlebrooks (1990) found that motivation to learn, perception of benefits, and work environment perceptions affected learning outcomes. The findings of researchers show overwhelming support for suggesting that different groups of people participate at different rates and levels because of their work environment (McDonald & Smith, 1995; Torraco & Swanson, 1995). While investigations of organizational support as independent or intervening variables of employee reaction abound, only a few researchers have explored the factors determining differences within the demographics that represent volunteer or self-development participants (Kremer, 2005).
While for some adults the decision to participate in education and development is a choice for perceived opportunities, Watane and Gibson (2001) found that for a sample of 22,500 New Zealanders the decision to participate in adult education was made with consideration to barriers. Watane and Gibson’s study showed that ethnic groups experienced barriers differently. Supporting studies such as Higginbotham’s (2004) conducted a survey of Black and White women managers and found perceptions of opportunities of White women to be more optimistic in views of their opportunities. Quinlan (2008) found similar results when studying a model of Canadian women training participation. As a gender compliment to Tuijnman’s (1989) study of male training participation, Quinlan concluded that determinants participation and pattern of returning to training was significantly predicted by economic benefits.

Conversely, other researchers have found that perceived barriers serve as motivators for education participation. It has been suggested that participation in training is deemed worthy when it leads to higher job performance, continued employment, or advancement in the form of job expansion or promotion. When participation expectations are not reinforced with the proper fairness of work outcomes, the result is an inequality of inputs and outputs perceptions of the worker and an attempt to balance the equation (Adams, 1965). Expectancy theory describes how workers make choices among alternatives and levels of effort. Under expectancy theory, instrumentality or perception of performing behaviors will lead to the attainment of a certain outcome (Vroom, 1964).

For potential learners, the behavior is learning and the outcome is progress. Leslie and Drinkwater (1999) studied a sample of the British youth labor market and reported that ethnic groups of women and men between the ages of 18-24 have considerable variations of motivation measurements to “staying on” in full-time educational situations. The Leslie and
Drinkwater study also found that the majority of the minority ethnic groups showed a higher motivation to stay on in full-time education because they were attempting to close the economic and social gaps between themselves and the majority population.

The advances to be made by education participation and other means of development are recognized by researchers as ways to improve organizations (Wentling, 2004). It has also been recognized by workers that advancement in education may lead to more and better opportunities (Leslie & Drinkwater, 1999). There is also a recognized common benefit for both employee and organization (Bhatnagar, 2005). Bhatnagar (2005) has found support for the hypothesis of empowerment having a positive relationship to organizational commitment among a sample of 609 Indian managers, making strong cases that environments influence perceptions of benefits.

Prevailing literature, supporting earlier discussions of self-development preferences in adults, indicates that mandatory participation in training and development has different, less positive responses to learning strategies than self-elected participation. (Klein & Freitag, 1992; Knowles, 1989; Neimeyer & Taylor, 2010; Stipek, 1988; Wlokowski, 1985). Also, other research findings related to adult education, training, and development and organizational change conclude that voluntary participation shows more favorable outcomes (Bloom, 1976; Festinger & Carlsmith, 1959; Kirkpatrick, 1985).

Summary

This study adds to the body of knowledge of adult education and related areas of andragogy applications. This research also adds to the possibility of closing the gap between theory and practice by increasing the understanding of why people differ in behavior and how to develop environments that promote a more predictable adult response in terms of participating in non-compulsory education opportunities such as work related training and development.
CHAPTER 3

METHODOLOGY

Introduction

This chapter explains the methods to examine how participation in non-compulsory adult education is related to select demographics: age, prior education success levels, being in a position of having subordinate responsibility, having child-age dependents in the household, marital status, presence of employment stability, and homeownership. This chapter includes descriptions of the population, the sample, research data source, the data collection procedures, the instrumentation, the research variables, the treatment of data, and a summary of steps used.

Population

The population for this study is the 2005 U.S. census estimation of 215,251,252 non-institutionalized persons above the age of 17. The 2005 U.S. census population has a mean age is 59.87. In terms of past educational success, 19.6% of population have not obtained a high school diploma or equivalent, 30% have received a high school diploma or equivalent, 18% have not succeeded in obtaining a bachelors degree, and 32.1% has succeeded in obtaining a bachelors degree or higher. Of the population, 34.7% holds positions having responsibility for subordinates. The percentage of households that have at least one child below the age of 18 is 32.8%. Married respondents are 54.1% of the population. Home-owners account for 66.9%, and 44% has participated in adult education. The employment rate for the population is 95.8 (see Table 2), and 5.2% of the population do not have telephone service available (U.S. Census Bureau, 2005).
Sample

The sample for this study includes 8,904 non-institutionalized persons age 18 and up not enrolled in a Grade 12 or below education program. The sample’s mean age is 50.92. In terms of past educational success, 15.5% of the sample have not succeeded in obtaining a high school diploma or equivalent, 24% received a high school diploma or equivalent, 26% has succeeded in attending college, and 34.7% has succeeded at obtaining a bachelors degree or higher. Of the sample, 27.4% holds positions having responsibility for subordinates. The percentage of households that have at least one child below the age of 18 is 29.8%. Married respondents are 53.2% of the sample. Homeowners accounted for 72.5% of sample, and 53.1% of sample responded as having participated in education during past 12 months. The sample’s employment rate is 95.8.

Table 2

Population/Sample Comparison

<table>
<thead>
<tr>
<th>Variable</th>
<th>Population*</th>
<th>Sample**</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>215,251,252</td>
<td>8,904</td>
</tr>
<tr>
<td>Mean Age</td>
<td>59.87</td>
<td>50.92</td>
</tr>
<tr>
<td>%Education levels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;HS</td>
<td>19.6</td>
<td>15.5</td>
</tr>
<tr>
<td>HS diploma or equal</td>
<td>30.0</td>
<td>24.0</td>
</tr>
<tr>
<td>Some college</td>
<td>18.1</td>
<td>***26.0</td>
</tr>
<tr>
<td>College degree</td>
<td>32.1</td>
<td>34.7</td>
</tr>
<tr>
<td>%Sub. Responsibility</td>
<td>34.7</td>
<td>27.4</td>
</tr>
<tr>
<td>% w/ Children&lt; 18</td>
<td>32.8</td>
<td>29.8</td>
</tr>
<tr>
<td>% Married</td>
<td>54.1</td>
<td>53.2</td>
</tr>
<tr>
<td>% Homeowner</td>
<td>66.9</td>
<td>72.5</td>
</tr>
<tr>
<td>% AE respondent</td>
<td>****44.0</td>
<td>43.4</td>
</tr>
<tr>
<td>Job stability (used as 1-Unemployment rate)</td>
<td>****94.9</td>
<td>95.8</td>
</tr>
</tbody>
</table>

US Census Bureau (http://DataFerrett.census.gov/The DataWeb, retrieved 12/28/09)
In 1991 the National Household Education Survey (NHES) began publishing data related to the education of the U.S. adult population. The purpose of collecting these data, offered in alignment with NHES’s core function, was to provide statistical data for describing Americans’ educational experiences. NHES concerning adult education were conducted in 1995, 1999, 2001, 2003, and 2005. There are three surveys from the 2005 data: adult education, early childhood program participation, and after-school programs and activities. This research uses the most current data collected, the 2005 data set. The NHES data were selected based on their fit with the needs of this study.

Data Collection Procedures

The NHES: 2005 data was collected using computer-assisted telephone interviewing (CATI) technology. The sample was selected using random-digit-dial (RDD) screening methods. During the screening process, the potential participants answered questions that qualified the responding individual and household to participate in the actual interview survey. The interview process collected data on household and individual demographics and participation in education. The NHES: 2005 adult education section, by sampling design and interview sample of 8,848, is a weighted representation of all civilian, non-institutionalized persons in the United States, ages 18 to 89, not enrolled in Grade 12 or below education programs.

The collection process of the NHES, as with face-to-face, personal interviews and survey questionnaires, raises concerns about error in the form of respondents not providing accurate data
(responses). For this reason, this researcher believes that the phone interview process offered the best combination for the interviewer’s being able to ask follow-up questions for the questions that garnered unclear responses and the elimination of responses that respondents may embellish because of personal embarrassment.

Instrumentation

The NHES questions are seemingly superficial, as with most national surveys, but by being seemingly harmless, they allow respondents to answer in the most candid manner. It is also believed that the scripted questionnaire format conducted in both English and Spanish offers a standardized collection process for a diverse population.

The questionnaires of the NHES contain only fact-based questions, mostly dichotomous (yes, no) or categorical in response. A major concern of survey research is its inability to go beneath the surface of the question (Kerlinger, 1973). The NHES shares in this weakness because it asks only direct and concise questions. Although seen as a weakness, the conciseness of the NHES is part of the reason for its selection. The breadth–for-depth trade-off of the NHES is not only acceptable but is also desired.

Sections of the NHES: 2005 adult education survey questionnaire have statements such as “Now I’d like to ask you about different kinds of training or education that you may have taken during the past 12 months, that is, since (MONTH), 2002.” A typical data collection question reads: “Did your employer… reimburse you or pay directly for all or part of the tuition and fees for the (Degree/Certification) program?”

Most answer choices for such questions are recorded as dichotomous or binary responses, which are read to the respondent. The survey set is comprised of 13 sections. The majority of the questions are repeated (with adjustments for the respective section) throughout the survey.
Treatment of the Data

*Dependent Variable*

The literature review in Chapter 2 provides a rich array of research on the adult participation in education. However, it is virtually devoid of research on adult readiness to optimally participate in self-development education or training and development. The purpose of this research is to help fill this gap. This research thus necessarily has a field study character. Kerlinger (1973) described field study as "ex post facto scientific inquiries aimed at discovering the relations and interactions among sociological, psychological, and educational variables in real social structures" (p. 405).

To help with the exploratory nature of a field study, the method used to gather the data needed for analysis was carefully planned following the steps in Table 3.

To adhere to the data-gathering plan, an in-depth literature review was conducted to determine what adult educational activity choices for dependent variable components, NCAEP (non-compulsory adult education participation) respondents had participated in. The literature review was also relied upon to determine what constitutes adult education.

Table 3

*Data Planning Matrix: Social-based Adult Demographic Determinants of Participants and Nonparticipants of Non-compulsory Adult Education*

<table>
<thead>
<tr>
<th>Research question</th>
<th>What do I need to know?</th>
<th>How do I get that information</th>
</tr>
</thead>
</table>
| 1. Are there differences between participants and non participants of adult education when analyzed for social based adulthood demographics | * What constitutes an adult?  
* What kind of learning activities do they participate?  
* Is their participation compulsory or non-compulsory? | -In-dept literature review  
-Survey  
-Data analysis |
The root of this study is based on adult education being a social phenomenon and thus considers only instances of purposeful education in social settings rather than actions of isolated behaviors of intrigue. To accomplish the research goals, adult education opportunities has been combined on the basis of being learning situations with a “social nexus.” The identified types of adult education are composed of dependent variable components represented in Table 4. The resulting composition is used as a binary logistic regression (classification) analysis’s dependent variable or target behavior (OD).

The OD, dummy dependent variable [ncadulted] (coded as “0” for “no” and “1” as “yes” to the question “Is this person a participant of non-compulsory adult education?”), includes non-compulsory adult education in the areas of ESL courses, basic skills, GED, or other high school equivalent courses; college or university courses; vocational or technical courses; apprenticeships; or other formal courses pertaining to work. All sum counts of participation in dependent variables account for one instance of participation and associated OD.

Table 4

Variable Matrix

<table>
<thead>
<tr>
<th>Dependent Variable Components</th>
<th>Independent Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ESL courses</td>
<td>1. Age</td>
</tr>
<tr>
<td>3. College/University course</td>
<td>3. Subordinate responsibility</td>
</tr>
<tr>
<td>4. Vocational/Tech course</td>
<td>4. Child aged dependent</td>
</tr>
<tr>
<td>5. Apprenticeship</td>
<td>5. Marital status</td>
</tr>
<tr>
<td>6. Other formal course</td>
<td>6. Employment stability</td>
</tr>
<tr>
<td></td>
<td>7. Home ownership</td>
</tr>
</tbody>
</table>

Independent Variables

The independent variables, based on the literature review, accounts of society’s determinants of adulthood, are composed of seven variables. The variables supported by literature and selected for this study are composed of age, prior education success level, having
subordinate responsibility, having a child-aged dependent in household, marital status, having employment stability, and home ownership (refer to Chapter 1 of this study for descriptions of independent variables).

Independent Variable Classification Analysis

In this study, the specific measures of socially based adulthood characteristics are used as independent variables. The independent variables of “Age” [groupedbyage], “Prior education success level” [edsuclev], ”Subordinate responsibility” [subres], ”Child-aged dependent” [childage], ”Marital status” [marriage], ”Employment stability” [worstab], and ”Home ownership” [ownhome] is used as predictors to differentiate between participants and non participants of non-compulsory adult education. To determine if the selected independent variables and/or adult demographics (see Table 4) are useful in discriminating between participants and nonparticipants of adult education, half data selection was performed using SPSS for Windows, version 11’s select cases function for a random selection of approximately 50% of total sample.

Independent variables in the form of adult demographics is coded as to create dummy variables for analysis containing a mixed assortment of predictors of participation in non-compulsory adult education, including nominal, ordinal, and ratio scale independent variables (see table 4). The single ratio scale variable is restricted for numbers within the range of 18-90. The single ordinal scaled variable has four levels. All nominal scale coding are scored as dichotomous.

Independent Variables
The independent variables are demographic-based representations typically associated with adulthood in a capitalist society. Table 4 illustrates the study’s design’s independent and dependent variables with associated measurement scales and levels.

Table 5

*Design Variables*

<table>
<thead>
<tr>
<th>Type</th>
<th>Variable description</th>
<th>Scales of measurement</th>
<th>Levels (treatments)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
<td>Age</td>
<td>Ratio</td>
<td>18-89 w/90+ as 90</td>
</tr>
<tr>
<td>Independent</td>
<td>Prior education success level</td>
<td>Ordinal</td>
<td>No education-graduate school completed</td>
</tr>
<tr>
<td>Independent</td>
<td>Subordinate responsibility</td>
<td>Nominal</td>
<td></td>
</tr>
<tr>
<td>Independent</td>
<td>Child aged dependent</td>
<td>Nominal</td>
<td>Present, not present</td>
</tr>
<tr>
<td>Independent</td>
<td>Marital status</td>
<td>Nominal</td>
<td>Present, not present</td>
</tr>
<tr>
<td>Independent</td>
<td>Job stability</td>
<td>Nominal</td>
<td>Present, not present</td>
</tr>
<tr>
<td>Independent</td>
<td>Home ownership</td>
<td>Nominal</td>
<td>Currently owner, not currently owner</td>
</tr>
<tr>
<td>Dependent</td>
<td>Non-compulsory adult education participation</td>
<td>Nominal</td>
<td>Present, not present</td>
</tr>
</tbody>
</table>

*Age*, indicated and coded by the age of respondents the last day of the previous year. The numerical representation ranging from 18 to 89 is analyzed as ratio scale data. To keep the anonymity of Americans over the age of 90, all ages over 89 have been recoded to the age of 90.

*Prior Education Success Level* indicates the highest education level completed by the respondent. The level of education is taken from the response given to the question “What is the highest grade or year of school that you completed?” The study variable is derived by creating an ordinal scale dummy variable, “edsuclev” containing four rankings. The first rank coded as “0” is created with the combining of responses between having no formal education to having attended 12th grade and not receiving a diploma or equivalent. The second rank, coded as “1,” high school diploma or equivalent contains responses that imply that the respondent has obtained
either a high school diploma, a GED, or another high school equivalent diploma. The third rank, coded as “2,” is composed of responses implying that the respondent has attended college but does not have a bachelor degree or obtained an associate degree. The fourth rank, coded as “3,” bachelor degree or higher, is created by combining all instances where the respondent has obtained a bachelor degree, attended or completed a graduate program (see Table 6).

Table 6

<table>
<thead>
<tr>
<th>Prior Education Success Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education level</td>
</tr>
<tr>
<td>LESS THAN HIGH SCHOOL DIPLOMA</td>
</tr>
<tr>
<td>HIGH SCHOOL DIPLOMA OR EQUIVALENT</td>
</tr>
<tr>
<td>SOME COLLEGE OR ASSOCIATE DEGREE</td>
</tr>
<tr>
<td>BACHELORS DEGREE OR HIGHER</td>
</tr>
</tbody>
</table>

Subordinate Responsibility indicates that the respondent has a position that requires the acceptance of responsibility for peers or other form of subordinate performance. Data related to having subordinate responsibility are recorded in response to the question “What kind of work (are/were) you doing and what (are/were) your most important activities or duties?” Of 20 responses (see Appendix A, Question AL23), executive, administrative, and managerial occupation codes were recognized as being responsible for subordinates. Data are treated to create the dummy variable, “subres,” with representations of “executive, administrative, managerial” employment functions as an indication of subordinate responsibility being present and otherwise not present. Variable is coded as either 1 or 2, respectively, to responses indicating present or not present.

Child Age Dependent Care indicates that the respondent is currently residing in a household that has a child-age dependent (described as age 18 or less). The dummy variable “childage” is coded as 1 or 2, respectively, to having a child-age dependent in household.
**Marital Status** indicates that a person is married, separated, divorced, widowed, never married. Responses to the question “Are you currently... married, separated, divorced widowed, or never married” and “Are you current living with a partner (see Appendix A, question AL5 and AL50V) are recoded with married, living with partner, or widowed indicating being married, and all other responses are recoded as single. The created dummy variable “marriage” is coded as 1 or 2, respectively, to being married or single.

**Employment Stability** indicates the respondent’s labor force status. The stability of the respondent’s work history is indicated by reports of being employed for the past 12 months. The dummy variable “worstab” is coded as either 1 or 2, respectively, to responses indicating being employed for the past 12 months, as present or not present.

**Home Ownership** indicates that the respondent is currently a homeowner. The dummy variable, “ownhome” is coded as either 1 or 2, respectively, to responses indicating being currently an owner or not currently an owner.

**Dependent Variables**

For the purpose of this study multiple types of adult education opportunities are combined into the dummy variable “NCAE,” representing the operational definition of the research dependent variable. The combined educational opportunities used to represent adult education are derived from the following representations of adult education:

*ESL classes* indicate participation in classes or utilization of a tutor to learn English as a second language in the 12 months prior to interview. Responses of either “yes” or “no” were coded as either 1 or 2, respectively, for the creation of dummy variable “nceslang.”

*Basic skills/GED or other High School Equivalency preparation classes* indicates participation in classes or utilization of a tutor, either to improve basic reading, writing, and math
skills, prepare to take the General Educational Development (GED) test, or to complete some other high school equivalency program or adult high school program. Responses of either “yes” or “no” were coded as either 1 or 2, respectively, to create the dummy variable “ncbs” for any of the three possible paths of basic skills improvement.

*College/university degree or certification program* indicates participation in college or university degree or certification programs to earn a college or university degree or certificate. Such degrees and certificates included associate, bachelor, graduate degrees, and post-graduate, post-masters, or post-doctoral certifications. Responses of either “yes” or “no” were coded as either 1 or 2, respectively to create dummy variable “coluni.”

*Vocational/Technical Diploma*, indicated by the respondent is responding with a yes to having participated in programs leading to a diploma, including an associate degree/diploma after having left high school. Responses of either “yes” or “no” were coded 1 or 2, respectively, to create dummy the variable “voctec.”

*Apprenticeship* indicates participation in apprenticeship programs, which are defined as formal programs that lead to journeyman status in a skilled trade or craft. Responses of either “yes” or “no” were coded as either 1 or 2, respectively, to create dummy variable “apprenti.”

*Formal Courses*, indicated by responses to having participated in any courses not part of a degree or diploma program, including personal interests or work/career-related courses seminars, training, or workshops. Responses of either “yes” or “no” were coded as either 1 or 2, respectively, to create dummy variable “formal.”

The above listed adult educational opportunities are combined under the following two restrictions, representing the dependent variable’s operational definition of non-compulsory adult education participation.
**Participation in Training/Learning and or Development for Any Reason Restriction**

This restriction is addressed by creating a dummy variable that represents the responses of all seven recognized education opportunities. The combined responses answer the pseudo-question “Did you participate in any adult education?” Any response of “1” prompted a coding of 1 for the dummy variable, “aeparany,” otherwise coded as 2, effectively creating responses that report respondents as having or not having participated in adult education for any reason or situation during the targeted period.

**Participation in Training/Learning and or Development Restriction**

This restriction is addressed by recoding dummy variable aeparany while restricting case inclusion to those that are coded “1,” and respondent did not indicate that participation was done per any requirements such as those by an employer or government entity. After filtering dummy variable aeparany for instances of requirement a pseudo-variable “AEANYR” is recognized as the point of which the question; “Was your participation required?” can be asked. In instances in which the data represented that the respondent’s participation was not required, the respondent was included in the dummy variable “NCAE”; the operational definition and the remaining corresponding respondents were excluded from the target group (TG), where respondents meeting the requirements of the operational definition NCAE was coded as “1,” otherwise coded as “0” (Kerlinger, 1973), creating the dummy variable “ncadulted.”

The above restrictions in their represented question format create the pseudo-question “Did you participate in non-compulsory adult education?” The logical sequence representing the selection of a respondent being considered as a part of the target group is illustrated by Figure 3.
Figure 3. Decision tree for non-compulsory adult education participation.

**Binomial Logistic Regression Analysis**

To analyze a mix of independent variable types and a dependent variable with dichotomous outcomes, a binary logistic regression analysis is conducted using IBM’s SPSS Statistics 19 with maximum likelihood ratio forward stepwise method with inclusion and exclusion criteria set at .05 and .10, respectively, of selected cases data. Binary logistic regression analysis was chosen to analyze the hypotheses for its ease of use and interpretation, its ability to analyze for a dichotomous dependent variable. The binary logistic regression model assumes that data are case specific; that is, each independent variable has a single value for each case. Binary logistic regression analysis also assumes that the dependent variable can not be perfectly predicted from any mix or number of independent variables.

Colinearity is assumed to be relatively low in binary regression analysis so that distinction between the impacts of several independent variables may be recognized (Agresti, 2002). To assure the best possible chance of discriminating between dependent variable outputs the forward stepwise analysis is used stipulated with a maximum of 100 iterations. The log likelihood convergence is set at 0. The parameter convergence used shall be 0.000001. Check for separation of data points from iteration 20 forward were used with delta set at 0 and a singularity
tolerance of 0.00000001 (Agresti, 2002). To increase the possibility of having all significant variables included, the hierarchical constraint for entry and removal of terms was conducted so that covariate terms could enter stepwise iterations at any time among the factorial terms.

Stepwise analyses have received stern criticism for being subject to sampling errors and thus producing unstable results. The general complaint is that the hierarchical order is created based on the sample of study. The idea is that having the stepwise model be based on the sample itself limits its resulting model’s effectiveness to the sample from which it was developed, negatively affecting the model’s ability to accurately or reliably reflect the existing relationships within the population.

Stepwise has also been criticized for its disregard of appropriate degrees of freedom. Some researchers have argued that the criticism is erroneous (Knapp & Sawilowsky, 2001). The obvious concern with the criticism is the interpretation of the criticism is often taken as a total condemnation of stepwise analysis (Klemmer, 2000), when key critics are stating that the criticism is more on the misuse of the method and a call for the correction of software’s alleged computation of degrees of freedom. In the explanation of a fictitious example results shown in Table 7, it is stated and illustrated that “If the five entered predictor variables have been randomly selected, an explained degrees of freedom of 5 might be arguably correct” (Thompson, 1995, p. 527). Obviously the blanket condemnation of stepwise analysis is unfounded and erred for the sake of being colorful in the declaration of “most computer programs for [stepwise] multiple regression are positively satanic in their temptation toward Type 1 errors” (Cliff, 1987, p. 185).
Table 7

**Hypothetical Five-Step Regression Model with 101 Subjects and 50 Predictor Variables**

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Source</th>
<th>SOS</th>
<th>df</th>
<th>MS</th>
<th>Fcalc</th>
<th>Fcrit</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Explained</td>
<td>20</td>
<td>5</td>
<td>4.0000</td>
<td>4.75</td>
<td>4.41</td>
<td>20.00%</td>
</tr>
<tr>
<td></td>
<td>Unexplained</td>
<td>80</td>
<td>95</td>
<td>0.8421</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Explained</td>
<td>20</td>
<td>50</td>
<td>0.4000</td>
<td>0.25</td>
<td>--²</td>
<td>20.00%</td>
</tr>
<tr>
<td></td>
<td>Unexplained</td>
<td>80</td>
<td>50</td>
<td>1.6000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

².Because $F_{critical}$ at infinite and infinite degrees of freedom equals 1, an $F_{calculated}$ less than 1 cannot be statistically significant.

Thompson (1995), offer a caveat to differences between statistical software package’s computed degrees of freedom based on number of variables used in the model and the degrees of freedom based on total possible variable options concludes that statistical software counts of degrees of freedom when the total number of available variables are close to the number of variables in the final model. Another found criticism of stepwise regression analysis is the inappropriate conclusion in regards to the importance of predictor variable selected. Thompson state that “some researchers employ stepwise methods to select a subset of better variables from among a larger constellation of predictors for use in present or future research.”

The study design is to distinguish between participants and nonparticipants of noncompulsory adult education in reference to having achieved socially based milestones of adulthood. To accomplish this, stepwise analysis is used [as a test of model completeness] to determine if any independent variable could be eliminated as a predictor variable to preserve scientific parsimony and increase the predictive power of the resulting model. The author agrees with Thompson’s (1995) notion that the differing degrees of freedom between model and total
available variables have less chance of inflating F calculations the smaller the number of available variables.

Thompson’s criticism also states the misuse of stepwise regression as a means to determine order of importance between variables (Thompson, 1995). The researcher of this study use of stepwise regression as a test of model completeness in relation to the related theory not only provide validity confirmation but also allows statistical software packages’ stepwise regression models to “charge” degrees of freedom according to the number of variables used and “consulted” (Thompson, 1995). The current study base no ordinal values on independent variable in favor of recognizing possible variable interrelations.

Another criticism of stepwise regression analysis is that because it is open to sampling error (Thompson, 1995). In consideration, as a solution to possible sample error this study uses a large sample size and an internal research design including split data testing of the final binary logistic regression model’s classification predictions.

Thompson (1995), in his criticism suggests testing for large effect sizes as a remedy for having analysis being subject to sample error. Due to this study’s analysis being based on $X^2$, the researcher found it necessary to test for effect size, to determine the degree of relationship between dependent (group classification) and independent (predictors) variables. The effect size is computed to give a comparative assessment between group classifications of prior probabilities, derived from the non-compulsory adult education participation percentages from the full data set, and binary regression analysis classification predictions.

Summary

This chapter describes the methodology used for this study. The methodology was designed to recode and analyze the NHES: 2005 data for the purpose of determining whether a
relationship exists with non-compulsory adult education participation and the attainment of adult demographic characteristics using binary logistic regression analysis.
CHAPTER 4
RESULTS AND FINDINGS

Introduction

The purpose of this study was to determine and analyze whether there are demographic differences between participants and nonparticipants of non-compulsory adult education, learning, training, and development opportunities. This chapter presents the results of computational outputs for the binomial logistic regression analysis used for hypothesis testing. This chapter also provides a description of the findings for dependent and independent variables.

Participants

The participants are 8,904 non-institutionalized persons aged 18 and up not enrolled in a Grade 12 or below education programs who responded to the National Household Educations Survey. The sampled respondents are recognized as the number of participants who participated in adult education during the period of reference. The target group is recognized as the number of respondents who participated in adult education in a non-compulsory capacity with a social nexus, a point of which at least one other member of society was a stakeholder in the education activity outcome. The exclusion of activities not considered as having the social nexus necessary to be considered for this study reduced the participation rate to 43.4%, a number closer to the national adult education participation rate of 44%.

Binomial Logistic Regression Analysis Results

Binomial Logistic Regression Analysis

Hypothesis testing was conducted using binomial logistic regression analysis. The purpose of using binomial logistic regression analysis is to model the dependence of bicategorical response on a set of predictor variables as required to test the hypotheses.
For this study, the following is the null hypothesis:

There is no significant dependence on independent variables (age, prior education success level, having subordinate responsibility, having a child-aged dependent in household, marital status, having employment stability, and home ownership) for the dependent variable to discriminate between respondents that are participants and nonparticipants of non-compulsory adult education above that which would happen by chance predictions.

The base measurement for the hypothesis is prediction by chance of the full sample set. Table 8 shows that the prior probabilities of respondents in the full data set being or not being a participant of non-compulsory adult education was 38.5% and 61.5% respectively.

Table 8

Prior Probabilities for Entire Sample

<table>
<thead>
<tr>
<th>PARTICIPATED IN NCAE</th>
<th>Cases Used in Analysis</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prior</td>
<td>Unweighted</td>
</tr>
<tr>
<td>0 NO</td>
<td>.615</td>
<td>4707</td>
</tr>
<tr>
<td>1 YES</td>
<td>.385</td>
<td>3604</td>
</tr>
<tr>
<td>Total</td>
<td>1.000</td>
<td>8311</td>
</tr>
</tbody>
</table>

Correlation of Group Means and Variances

The group statistics of full data set presented in Table 9 reveals no major concern for group means and standard deviation correlation violation. The mean for each group independent variable’s corresponding standard deviation is proportional to that of counter group.
Table 9

*Group Statistics*

<table>
<thead>
<tr>
<th>Participation in NCAE</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 NO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>54.91</td>
<td>17.095</td>
<td>4707</td>
</tr>
<tr>
<td>MARRIAGE</td>
<td>1.46</td>
<td>.499</td>
<td>4707</td>
</tr>
<tr>
<td>JOB STABILITY</td>
<td>1.56</td>
<td>.496</td>
<td>4707</td>
</tr>
<tr>
<td>PAST EDUCATION SUCCESS LEVEL</td>
<td>1.53</td>
<td>1.096</td>
<td>4707</td>
</tr>
<tr>
<td>CHILD AGED DEPENDENT PRESENT</td>
<td>1.74</td>
<td>.439</td>
<td>4707</td>
</tr>
<tr>
<td>SUBORDINATE RESPONSIBILITY</td>
<td>1.81</td>
<td>.394</td>
<td>4707</td>
</tr>
<tr>
<td>OWN HOME</td>
<td>1.26</td>
<td>.441</td>
<td>4707</td>
</tr>
<tr>
<td>0 YES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>45.70</td>
<td>16.986</td>
<td>3604</td>
</tr>
<tr>
<td>MARRIAGE</td>
<td>1.48</td>
<td>.500</td>
<td>3604</td>
</tr>
<tr>
<td>JOB STABILITY</td>
<td>1.16</td>
<td>.498</td>
<td>3604</td>
</tr>
<tr>
<td>PAST EDUCATION SUCCESS LEVEL</td>
<td>2.16</td>
<td>.947</td>
<td>3604</td>
</tr>
<tr>
<td>CHILD AGED DEPENDENT PRESENT</td>
<td>1.67</td>
<td>.470</td>
<td>3604</td>
</tr>
<tr>
<td>SUBORDINATE RESPONSIBILITY</td>
<td>1.62</td>
<td>.487</td>
<td>3604</td>
</tr>
<tr>
<td>OWN HOME</td>
<td>1.29</td>
<td>454</td>
<td>3604</td>
</tr>
</tbody>
</table>

Although PASW provide a concurrent analysis output of split data, only the data set pertaining to selected cases is discussed in detail, except for group statistics and case processing summary.

*Case Processing Summary*

Appendix B shows that the minimum 10 cases per independent variable requirements for binomial logistic regression analysis are met (Hosmer & Lemeshow 2000). The lowest case count is 189 for both sets of split data. The total number of valid cases is 4,122 for the selected and 4,189 for cases not selected. The ratio of valid cases to number of independent variable factors (24) for both selected and not selected cases are 171.75 and 174.54 respectively.

*Goodness of Fit*

Table 10, Hosmer and Lemeshow test results show a significant fit between the model and the data. The chi-square for the original test step and subsequent steps has 7 and 8 degrees of freedom respectively. The first step of Hosmer and Lemeshow test score of significance suggests that the first step does not fit the data while the following three steps show a fit with the data. The chi-squared score from the first step experienced a drop of 98.007 with one degree of
freedom difference. Chi-square further improvement drops of .937 and 1.249 for steps three and four resulted in a model with a chi-squared score of 8.709. The test of goodness-of-fit significance score for the forth step does not fall within the rejection zone of less than .01, and it is concluded that the resulted forth step has considerably improved the model’s fit with the data.

Table 10

*Hosmer and Lemeshow Test*

<table>
<thead>
<tr>
<th>Step</th>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>108.902</td>
<td>7</td>
<td>.000</td>
</tr>
<tr>
<td>2</td>
<td>10.895</td>
<td>8</td>
<td>.208</td>
</tr>
<tr>
<td>3</td>
<td>9.958</td>
<td>8</td>
<td>.268</td>
</tr>
<tr>
<td>4</td>
<td>8.709</td>
<td>8</td>
<td>.367</td>
</tr>
</tbody>
</table>

The information presented in Table 11, omnibus tests of model coefficients illustrate the four steps and related models indicate the existence of a relationship between dependent and independent variables. The existence of a relationship between the independent variables and the dependent variable was supported, revealing that all predictors’ regression coefficients in the model are not simultaneously zero. The model coefficients test shows that Step 4 model, with largest chi-square score, $\chi^2 (8, n=4122) = 663.057$, $\rho<.05$ outperforms the null model in discriminating between dependent variable groups.
### Table 11

**Omnibus Tests of Model Coefficients**

<table>
<thead>
<tr>
<th>Step</th>
<th>Block</th>
<th>Model</th>
<th>Chi-square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Step</td>
<td></td>
<td>247.505</td>
<td>1</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Block</td>
<td></td>
<td>247.505</td>
<td>1</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Model</td>
<td></td>
<td>247.505</td>
<td>1</td>
<td>.000</td>
</tr>
<tr>
<td>Step 2</td>
<td>Step</td>
<td></td>
<td>376.596</td>
<td>1</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Block</td>
<td></td>
<td>624.101</td>
<td>2</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Model</td>
<td></td>
<td>624.101</td>
<td>2</td>
<td>.000</td>
</tr>
<tr>
<td>Step 3</td>
<td>Step</td>
<td></td>
<td>32.890</td>
<td>1</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Block</td>
<td></td>
<td>656.991</td>
<td>3</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Model</td>
<td></td>
<td>656.991</td>
<td>3</td>
<td>.000</td>
</tr>
<tr>
<td>Step 4</td>
<td>Step</td>
<td></td>
<td>6.066</td>
<td>1</td>
<td>.014</td>
</tr>
<tr>
<td></td>
<td>Block</td>
<td></td>
<td>663.057</td>
<td>4</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Model</td>
<td></td>
<td>663.057</td>
<td>4</td>
<td>.000</td>
</tr>
</tbody>
</table>

**Likelihood Ratio Tests**

Tests of likelihood ratios conducted upon the model’s independent variables individually shows that while individual independent variables “age,” “worstab,” “edsuclev,” “childage,” and “subres” are significantly related to the dependent variable, “marriage” and “ownhome” was not significant alone and therefore were removed from the model (see Table 12). The likelihood ratio test presented in Table 12 of not selected cases revealed similar results, with the exception of “childage” being replaced by the “marriage” variable (marriage is noted here but not used in the above model).
Table 12

*Likelihood Ratio Tests*

<table>
<thead>
<tr>
<th>Filter $_S= 1$ (FILTER) Effect</th>
<th>Model Fitting Criteria</th>
<th>Likelihood Ratio Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-2 Log Likelihood of Reduced Model</td>
<td>Chi-Square</td>
</tr>
<tr>
<td><strong>Not Selected</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>3601.049*</td>
<td>.000</td>
</tr>
<tr>
<td>Age</td>
<td>3777.204</td>
<td>176.155</td>
</tr>
<tr>
<td>Subres</td>
<td>3612.589</td>
<td>11.540</td>
</tr>
<tr>
<td>Childage</td>
<td>3604.993</td>
<td>3.945</td>
</tr>
<tr>
<td>Edsuclev</td>
<td>3809.479</td>
<td>208.431</td>
</tr>
<tr>
<td>worstab</td>
<td>3606.684</td>
<td>5.636</td>
</tr>
<tr>
<td><strong>Selected</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>3500.150*</td>
<td>.000</td>
</tr>
<tr>
<td>Age</td>
<td>3719.582</td>
<td>219.432</td>
</tr>
<tr>
<td>Subres</td>
<td>3626.831</td>
<td>26.681</td>
</tr>
<tr>
<td>Childage</td>
<td>3505.612</td>
<td>5.462</td>
</tr>
<tr>
<td>Edsuclev</td>
<td>3679.755</td>
<td>179.605</td>
</tr>
<tr>
<td>worstab</td>
<td>3507.601</td>
<td>7.451</td>
</tr>
</tbody>
</table>
Table 13

Iteration History

<table>
<thead>
<tr>
<th>Iteration</th>
<th>-2 Log likelihood</th>
<th>Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Age</td>
</tr>
<tr>
<td>Step1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 1</td>
<td>5496.292</td>
<td>-.075</td>
</tr>
<tr>
<td>2 2</td>
<td>5496.113</td>
<td>-.078</td>
</tr>
<tr>
<td>3 3</td>
<td>5496.113</td>
<td>-.078</td>
</tr>
<tr>
<td>Step2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 1</td>
<td>5083.033</td>
<td>-.181</td>
</tr>
<tr>
<td>2 2</td>
<td>5074.101</td>
<td>-.207</td>
</tr>
<tr>
<td>3 3</td>
<td>5074.086</td>
<td>-.208</td>
</tr>
<tr>
<td>4 4</td>
<td>5074.086</td>
<td>-.208</td>
</tr>
<tr>
<td>Step3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 1</td>
<td>5060.475</td>
<td>-.147</td>
</tr>
<tr>
<td>2 2</td>
<td>5050.168</td>
<td>-.170</td>
</tr>
<tr>
<td>3 3</td>
<td>5050.146</td>
<td>-.172</td>
</tr>
<tr>
<td>4 4</td>
<td>5050.146</td>
<td>-.172</td>
</tr>
<tr>
<td>Step4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 1</td>
<td>5048.881</td>
<td>-.168</td>
</tr>
<tr>
<td>2 2</td>
<td>5038.794</td>
<td>-.192</td>
</tr>
<tr>
<td>3 3</td>
<td>5038.774</td>
<td>-.193</td>
</tr>
<tr>
<td>4 4</td>
<td>5038.774</td>
<td>-.193</td>
</tr>
<tr>
<td>Step5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 1</td>
<td>5042.985</td>
<td>-.174</td>
</tr>
<tr>
<td>2 2</td>
<td>5033.167</td>
<td>-.198</td>
</tr>
<tr>
<td>3 3</td>
<td>5033.147</td>
<td>-.199</td>
</tr>
<tr>
<td>4 4</td>
<td>5033.147</td>
<td>-.199</td>
</tr>
</tbody>
</table>

a. Method: Forward Stepwise (Wald)
b. Initial -2 Log Likelihood: 5714.305
c. Estimation terminated and iteration number 3 because parameter estimates changed by less than .001
d. Estimation terminated and iteration number 3 because parameter estimates changed by less than .001

The findings presented in Table 13 iteration history illustrate the specific direction of the association between the independent variables and the groups representing the dependent variable. The results of iteration history suggest respondents are less likely to participate in non-compulsory adult education as they age, with a coefficient of -.199 for the selected cases. Independent variables “worstab” and “childage” were found to have significant negative
relationships (-.167 and .212) to non-compulsory adult education participation. Independent variable “subres” has a significant positive coefficient of .409. The findings also showed past education success level as having significant positive coefficient of .484 for non-compulsory adult education participation.

Classifications

Table 14 presents the distribution of the data in relation to the classification of predicted and observed cases of non-compulsory adult education participation. The overall classification accuracy rate is 66.8%, with individual group prediction accuracy being 75.1%, and 56.2%, respectively, for “no” and “yes” [to meeting OD requirements].

Table 14

Classifications

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted</th>
<th>Predicted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Selected Cases</td>
<td>Unselected Cases</td>
</tr>
<tr>
<td></td>
<td>Participated In NCAE</td>
<td>% Correct</td>
</tr>
<tr>
<td></td>
<td>0 NO 1 YES</td>
<td>0 NO 1 YES</td>
</tr>
<tr>
<td>Step 1 PARTICIPATED IN NCAE 0 NO 1 YES</td>
<td>2265 1622 40 195</td>
<td>98.3 10.7 59.7</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2 PARTICIPATED IN NCAE 0 NO 1 YES</td>
<td>1695 790 610 1027</td>
<td>73.5 56.5 66.0</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3 PARTICIPATED IN NCAE 0 NO 1 YES</td>
<td>1717 773 588 1044</td>
<td>74.5 57.5 67.0</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 4 PARTICIPATED IN NCAE 0 NO 1 YES</td>
<td>1726 788 579 1029</td>
<td>74.9 56.6 66.8</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 5 PARTICIPATED IN NCAE 0 NO 1 YES</td>
<td>1731 795 574 1022</td>
<td>75.1 56.2 66.8</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 15

Null Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Observed</th>
<th>Predicted</th>
<th>Percent Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>filter_$ = 1 (FILTER)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Selected</td>
<td>0 NO</td>
<td>1776</td>
<td>626</td>
</tr>
<tr>
<td></td>
<td>1 YES</td>
<td>789</td>
<td>998</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selected</td>
<td>0 NO</td>
<td>1697</td>
<td>608</td>
</tr>
<tr>
<td></td>
<td>1 YES</td>
<td>750</td>
<td>1067</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The proportional by chance accuracy rate computed from findings presented in Table 16, Null Classification for groups is 51.76 (computed as .594^2 + .406^2) for selected cases and 52.51 (computed as .612^2 + .388^2) for not selected cases. By comparing the predicted and observed outcomes presented in Table 15 Classifications it is found that the model based on independent variables have 29.05% (computed as (66.80 - 51.76) / (51.76)) greater chance of accurately classifying group membership than a by chance model for the selected cases. This finding is also supported by the results found on model fit and presented in table 13 suggesting that the model out performs the null.

Effect Size (phi)

Although the determination of a relationship between variables can be made based on $X^2$, no indication of the degree of this effect can be derived. For this determination, the effect size is
used to provide a degree of relationship between the dependent and the independent variables. By using the equation presented in Figure 4, it is found that the model’s effect size, $\Phi = 0.394$ where: $X^2 = 641.489$ and $N = 4122$. Based on Cohen’s guidelines for $\Phi$ coefficients (cited in Spatz, 2001), the effect size for the model indicates a medium-sized relationship between the adult-like behavioral response of non-compulsory adult education participation and adult demographics. The not selected cases provided results with $\Phi = 0.375$ where: $X^2 = 588.817$ and $N = 4189$, also indicating a medium-sized relationship between dependent and independent variables.

$$\Phi = \sqrt{\frac{X^2}{N}}$$

*Figure 4  Equation for phi.*

**Summary**

The literature review revealed a growing concern for adult learning and its associated transference in a time of exuberant growth and adult educational needs. The literature suggests that, although there is a need for learning, a low rate of learning transference still exists. The literature supports the suggestion of a gap existence between practice/experience and theory of adult education, training, and development.

The research literature suggests that best practices of education are those that align practice with theory, at least the practices that provide desired results and/or return on education investments. The research statistics also show that few people are considered and treated as adults based on what is theoretically possible.
Overwhelmingly, the literature suggests a pattern of societal behaviors dictating what and who are considered an adult. The literature also show adults are accepted and identified as individuals who accept social (cultural) views of reality and the necessity of being adults.

The statistical analysis of this study found that a seemingly strong relation exists between the dependent variable and the independent variables. The statistical analysis did not provide enough significant evidence to support the null hypothesis. Therefore the null hypothesis is accepted. Specific recommendations based on this decision are discussed in chapter 5.
CHAPTER 5
DISCUSSIONS, RECOMMENDATIONS, AND CONCLUSIONS

Introduction

In this chapter, the findings of the study are discussed, followed by the limitations of the study and recommendations for further research. Finally, conclusions are drawn and suggestions for practical application of the findings are provided.

Discussion

Statistical significant relationships were found between the adult demographic variables and non-compulsory adult education participation. The relationship between demographic variables and non-compulsory adult education, learning, training and development participation calls for a rejection of the null hypothesis stating:

There is no significant dependence on independent variables (age, prior education success level, having subordinate responsibility, having a child-aged dependent in household, marital status, having employment stability, and home ownership) by the dependent variable to discrimination between respondents who are participants and nonparticipants of non-compulsory education, training/learning and or development above that which would happen by chance prediction.

This result is in line with the theory expectations of G.G. Darkenwald and Merriam (1985). Darkenwald and Merriam theorized that participation is a result of social interaction. In light of this study Darkenwald and Merriam’s theory seems intuitively correct. It is easy to accept that what is important to the individual is often derived from what is culturally important. This study findings also supports the research findings of Elman and O’Rand (2002), where it was found
that participation in adult education for any reason (compulsory or otherwise) has a significant relation to demographic variables associated with adulthood.

The analysis of the relationship between non-compulsory adult education participation and demographics of adults provides no evidence of causation, only relationships. As with all ex post facto scientific inquiries, this study was aimed at finding the existence of a relationship, not the effect of controlling or input manipulation affects. The analysis of relationships between participating in non-compulsory adult education is beneficial only if integrated into the practice of adult education efforts. If one who practices adult education considers that the practice of adult education is a pertinent event from which positive returns may result and that these positive results are desired, one should make the necessary distinctions between adults and non-adults, effective and ineffective education practices, and promoting and prohibiting non-compulsory based education. These distinctions are most useful when paired with andragogy methods of education as it is prescribed that a certain type of learner will flourish over other types of learners in andragogy-based education situations (Knowles, et al. 2005).

This study analyzed independent variables age, work stability “worstab,” past education success levels “worstab,” child-aged dependent “childaged,” and subordinate responsibilities “subres.” The findings related to each of these dependent variables are too varied to make a general statement that having these of adult demographics one will participate in non-compulsory adult education. This phenomenon indicates the need for variables to be combined to be effective.

Age

Although in examining the likelihood ratios, one may consider age to be an important factor in determining the adult status of a potential participant, a look at the parameter estimates
places age near the bottom of correlated variables of non-compulsory adult education participation with a correlation of -.199. This is not to imply that age is not necessary in predicting participation, as expected but it is to say that there is small difference in age between cases that indicate or do not indicate having met this study’s OD for target grouping.

Researchers conducting related research in this study’s area of age, typically find that as age increases the amount of education participation decreases. Although this phenomenon may be more a representative statement of society rather than the aging person, much of the research literature attributes this to the individual. Opportunities for the elderly to participate in education may be limited by the society of which they are a part. Elman and O’Rand’s (2002) study findings presenting age to have a negative impact on participating in education may say very little about the personal choice of the individual.

The present study found, as with the findings of Elman and O’Rand (2002), that age is significant, but the separation between groupings for adulthood based on age alone is very small. It is found in this study that age, having a high likelihood test result and low coefficient, the characteristics of age have significant interactions with the other variables considered necessary for an acceptance of adulthood.

The interaction between age and other variables of concern is most likely due to the fact that the effects associated with becoming and/or being seen as an adult take time to occur, and age is simply an indicator of time.

Subordinate Responsibility

Persons in positions of responsibility for subordinates are often those higher in socioeconomic status and thus carry a higher load of responsibility. Being accepted and expected to handle the responsibilities associated with having subordinates may promote a higher
self-esteem level leading to higher confidence and self-efficacy. Individuals with high-self esteem and who have accepted the responsibility for others may have a higher propensity for accepting responsibility for their own successes and developments.

Although no direct studies of the relationship between education participation and having subordinates were found, related research such as longitudinal studies conducted by Schaie and Parham (1974) offer some suggestion of the human conditioning to be socially responsible. Schaie and Parham found that with age people accept their role as contributors to society.

This study supports the notion of upholding social responsibilities, because it was found that having subordinate responsibilities has a positive correlation of -.409 with the self-development act of participating in non-compulsory adult education.

*Past Education Success Level*

It could be suggested that the best way to determine one’s future behavior is to look at one’s past behaviors. The idea is that past education experiences greatly influence future and current education decisions.

Although researchers have found positive relations between adult education participation and being highly educated (Haggerty, et al, 2002; O’Donnel & Tobbell, 2007; Ramsey, 2004), this study found a slightly different result. The results suggest that past education success has a positive-negative pattern for coefficients from lower education to higher education levels of .484. The pattern result suggests that past education has a negative relation to participation in adult education, but the negative relationship decreases as past education levels reach higher levels.

*Having Work Stability*

For most of society, an individual who is not gainfully employed is living below full potential. A certain level of employment stability is necessary to reach many of the other
considerations for being considered an adult. Being employed is essential to being in a position of having responsibility for subordinates. It should go without saying that some tenure or stability should be present prior to and during terms of having subordinate responsibility.

Arnett (2002) found that getting a job is one of the main contributors to having individuals feeling that they are adults, but this study’s results suggest that job stability has a negative impact on non-compulsory adult education participation, with a negative coefficient of .167. This opposing finding may be due to the nature of this study, which is based on the participation, with the exclusion of required education, which is typically associated with work-related education and/or training. Individuals with a greater longevity of employment are more apt to feel secure in their position and personal marketability to the detriment of further development such as what could be obtained in the form of non-compulsory adult education participation.

Having a Child Aged Dependent

One could argue that no greater motivation exists beyond the instinct to care for a child. If the goal is to provide for a child, the idea is be to best position one self to do so. The opportunity for self-development for either increasing earnings potential or security should rank high on preferential behavior.

The present study contradicts this idea in favor of supporting other researchers such as Myers et al. (Gross et al., 2001). Myers et al. found that, of the individuals who indicated that they have a need to be a participant of parenting classes only 13% enrolled, and of the 13% that enrolled, the retention rate was 33%.
The study of non-compulsory adult education participation and its partial relation to having a child aged dependent resulted in a negative coefficient of .212. The most logical explanation is that individual with children do not have time to participate in education.

Limitations of the Study and Recommendations for Further Research

This study’s data were collected using telephone-based interviews, therefore limiting its sample to individuals accessible by phone. Telephone use as a method of interviewing adults provided the researcher with advantages related to non threatening interview situations. Replicating this study on populations that are not able to be reached in the same or similar non threatening manner may alter responses.

In emotional or preference-based studies, it is preferred that measurements represent a level or amount. This study does not account for instances of more than one count of participation in education.

The researcher cautions that the interpretation of what society considers important be considered in replications of this study, especially outside developed and developing capitalistic populations. This study is social based, and the interpretations of its results are limited to the type of society from which the sample was selected. To provide insight into a broader group of people, further research is needed. To be able to demonstrate societal differences in determining and responding to the social pressures of being an adult, a cross-society sample study should be conducted using independent variables that each given society use in consideration of adult status.

This study used a truncated age variable ranging from 18-90, with ages over 89 included as 90. It may be beneficial to rank order segments of age by corresponding stages of adult psychosocial development similar to that developed by Levinson. The optimal approach to
researching age’s affect on the decision-making process is to perform a longitudinal study of individuals from adolescence to late adulthood, of which the same demographic variables would be tracked and plotted against self-development adult education activities.

Because the focus of the study was on adult behavior, the exclusion of individuals below the age of 18 was a necessity. For future research, this study and its results may be complimented by lowering that age to include all adolescents. The idea is to get a better picture of adult behavior by the inclusion of adolescents who are allowed the opportunity to choose education participation with no repercussions. This of course would still require the following of social expectations, respectively, for adolescent and adult social pressures.

Conclusions and Recommendation

The researcher expected to learn whether or not those individuals who enter into adult demographic sets behave differently from those who have not met society’s requirements for adulthood. The findings of this research demonstrate a measurable difference between participants and nonparticipants of non-compulsory adult education when analyzed by the social views of adulthood. Although it is concluded that participation in non-compulsory adult education can be segmented using adulthood-based demographics, it is also offering a suggestion that andragogy theory has a place in adult education.

There is no question that participants of non-compulsory education have a higher preference for learning than otherwise would be found. It should also be accepted that those who have a higher preference for learning do so at a greater transference and success level than those who are reluctant to participate.

For the above conclusions, the researcher recommend that organizations that wish to receive the most from their educational, training, and/or development programs do so in
conjunction with the work/life alignment considerations in which life consists of developing, aiding, and promoting lifespan development from pre-adulthood to the late adulthood phase of life. The goal is to have a learning organization. The benefits of having a workforce that includes active learners or those primed for new learning is that it will increase and expedite work-related learning and the organizational changes necessary for organizational success.

To promote a work/life mix that will best nurture adult behavior it is recommended that organizations play an active role in promoting and supporting the attainment of adult demographics that best increase the desired behavior. Organizations, similar to all societies, have inherent cultures which may affect the behavior of their constituents. Considering that cultures vary from one group to another it is recommended that the application of this study be done with attention to the prominent culture of the organization as well as the culture within which the organization operates.

The drastic change of $\chi^2$ scores between single to multiple independent variables prompts the recommendation for organizations to practice a holistic approach when attempting to promote adult like behaviors such as non-compulsory participation in response to adult education, training, and development.
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA Initial Background</td>
<td>14</td>
</tr>
<tr>
<td>AB English as a Second Language Classes</td>
<td>17</td>
</tr>
<tr>
<td>AC Basic Skills and GED Preparation Classes</td>
<td>22</td>
</tr>
<tr>
<td>AD Credential Programs: College or University Degree Programs</td>
<td>27</td>
</tr>
<tr>
<td>AE Credential Programs: Vocational or Technical Diploma Programs</td>
<td>32</td>
</tr>
<tr>
<td>AF Apprenticeship Programs</td>
<td>36</td>
</tr>
<tr>
<td>AG Participation in Formal Courses</td>
<td>38</td>
</tr>
<tr>
<td>AH Work-Related Courses</td>
<td>41</td>
</tr>
<tr>
<td>AI Personal Interest/Development Courses</td>
<td>46</td>
</tr>
<tr>
<td>AJ Distance Learning</td>
<td>49</td>
</tr>
<tr>
<td>AK Informal Learning Activities for Personal Interest</td>
<td>50</td>
</tr>
<tr>
<td>AL Remaining Background Questions</td>
<td>51</td>
</tr>
<tr>
<td>AM Household Characteristics</td>
<td>57</td>
</tr>
</tbody>
</table>
INTRO1. [READ IF RESPONDENT WAS NOT SCREENER RESPONDENT: Hello, this is (INTERVIEWER). I’m calling for the U.S. Department of Education. We are conducting a voluntary and confidential national study about the educational activities of adults.]

INTRO2. The purpose of this interview is to learn what kinds of educational activities adults may take part in. We will talk about degree programs and classes in colleges and vocational schools, courses or training sessions related to work or personal interest, and other ways of learning new information or skills. On average, the interview takes 15 minutes.

Initial Background

AA1. First, I have a few questions about your background and work experience. What is the highest grade or year of school that you completed?

IBGRADE

UP TO 8TH GRADE ..............................................................1

9TH TO 11TH GRADE.................................................................2

12TH GRADE BUT NO DIPLOMA...................................................3

HIGH SCHOOL DIPLOMA/EQUIVALENT..........................................4

VOC/TECH PROGRAM AFTER HIGH SCHOOL BUT NO VOC/ TECH DIPLOMA .........................................................5

VOC/TECH DIPLOMA AFTER HIGH SCHOOL........................................6

SOME COLLEGE BUT NO DEGREE ...............................................7

ASSOCIATE’S DEGREE (AA, AS) ....................................................8

BACHELOR’S DEGREE (BA, BS)......................................................9

GRADUATE OR PROFESSIONAL SCHOOL BUT NO DEGREE...........10

MASTER’S DEGREE (MA, MS)........................................................11

DOCTORATE DEGREE (PHD, EDD)................................................12

PROFESSIONAL DEGREE BEYOND BACHELOR’S DEGREE (MEDICINE/MD; DENTISTRY/DDS; LAW/JD/LLB; ETC.) ...............13

AA1OV. Did you earn a vocational or technical diploma after leaving high school?

IBVOCDIP

YES .........................................................................................1
NOTE: Response categories shown in mixed upper and lower cases are read to the respondent by the interviewer. Those in uppercase are not read.

Variables designated by /R will appear on the AE restricted-use data file only.

AA2. (Do you have/Did you later receive) a high school diploma or its equivalent, such as a GED?

IBDIPL
YES .................................................................................................1 (GO TO AA2OV)
NO............................................................................................2 (GO TO AA6)

AA2OV. Did you receive your high school diploma or its equivalent in the U.S?

IBUSDIPL
YES .................................................................................................1
NO............................................................................................2

AA3. Did you receive your high school diploma or its equivalent in the past 12 months?

IBDIPLYR
YES .................................................................................................1
NO............................................................................................2

AA4. Did you complete your high school requirements through a regular high school diploma or through a GED test, (or did you go to college without earning a high school diploma)?

[OPTION 3 DISPLAYED ONLY IF IBGRADE >= 9]

IBHSREQ
REGULAR HIGH SCHOOL DIPLOMA ..............................................1 (GO TO AA6)

GED TEST..........................................................................................2 (GO TO AA5)
NO HIGH SCHOOL DIPLOMA/GED.................................................3 (GO TO AA6)

OTHER ...................................................................................91 (GO TO AA6)
IBHSROS/R SPECIFY__________________________________________

AA5.
Did you ever take classes or have a tutor to prepare for taking the GED test?

IBGEDCLS
YES .........................................................................................1
NO...........................................................................................2

AA6.
Did you work at a job for pay or income at any time in the past 12 months, including self-employment?

IBWORK12
YES .........................................................................................1 (GO TO AA7)
NO...........................................................................................2 (GO TO AA10)

AA7.
Were you self-employed at any time in the past 12 months?

IBSELFEM
YES .........................................................................................1 (GO TO AA8)
NO...........................................................................................2 (GO TO AA9)

AA8.
Besides being self-employed, did you also work for another employer in the past 12 months?

IBOTHEMP
YES .........................................................................................1
NO...........................................................................................2

If AA8 =2 (self-employed only), then autocode AA9 (number of employers) = 1.

AA9.
(Counting your self-employment as one job,) how many different employers did you work for in the past 12 months?

IBEMPNUM NUMBER......................................................................................

AA10. About your language background, what was the first language you learned to speak?

IBLANG ENGLISH ........................................................................................1 (AUTOCODE AA11=1 AND GO TO INTRO3)
SPANISH ..............................................................................................2 (GO TO AA11)
ENGLISH AND SPANISH EQUALLY ......................................................3 (GO TO AA11)
ENGLISH AND ANOTHER LANGUAGE EQUALLY ....................................4 (GO TO AA11)
SPECIFY

ANOTHER LANGUAGE ...............................................................................91 (GO TO AA11)
IBLANGOS/R SPECIFY

AA11.
What language do you speak most at home now?

IBSPEAK ENGLISH ..................................................................................1
SPANISH ..............................................................................................2
ENGLISH AND SPANISH EQUALLY ......................................................3
ENGLISH AND ANOTHER LANGUAGE EQUALLY ....................................4
SPECIFY

(ENGLISH AND OTHER LANGUAGE SPECIFIED IN AA12 EQUALLY) .................5
(LANGUAGE SPECIFIED IN AA12) ..........................................................6
ANOTHER LANGUAGE .............................................................................91
IBSPEAOS/R SPECIFY ..............................................................................

INTRO3.
Now, I'd like to ask you about different kinds of education and training programs, courses, workshops, and seminars you may have taken during the past 12 months. (Please don’t include daytime high school programs.)

English as a Second Language Classes

If AA10 = 2 or 91 (first language is not English), go to AB1.
Else, go to box before AC1.

AB1.
During the past 12 months, did you take any classes or have a tutor to learn English as a
Second Language?

ESLANG
YES .........................................................................................1 (GO TO AB2)
NO .................................................................................2 (GO TO AB21)

AB2.
Are you currently taking ESL classes or tutoring, have you completed the ESL instruction, or did you stop without completing it?

ESNOW
CURRENTLY TAKING...........................................................1

COMPLETED .............................................................................2

STOPPED WITHOUT COMPLETION .........................................3

AB3.
(Do/Did) you take the ESL classes mainly for work-related reasons or mainly for personal interest?

ESREAS
WORK-RELATED........................................................................1

PERSONAL INTEREST ................................................................2

BOTH EQUALLY .................................................................3

AB4.
(Are you taking/Did you take) the ESL classes ...

YES NO
ESCHIL a. To help your children with school work?.......................1 2
ESUSCIT b. To get U.S. citizenship?..............................................1 2
ESJOB c. To get a new job with a different employer?...................1 2
ESRAISE d. To help you get a raise or promotion?.........................1 2
ESCOLVOC e. To be able to attend college or vocational school? .........1 2
ESPUBAST f. To meet a requirement for public assistance?...............1 2
ESFEEL g. To improve the way you feel about yourself?...................1 2
ESLIFE h. To make it easier to do things on a day-to-day basis?...........1 2

AB5.
Who (do/did) you take your ESL classes from? That is, what type of school, organization, or business (teaches/taught) the ESL classes?
[IF “EMPLOYER”, PROBE: What type of organization is that?]  

ESPRTYP POSTSECONDARY SCHOOL (COLLEGE/UNIVERSITY, COMMUNITY/JUNIOR COLLEGE, VOCATIONAL/TECHNICAL/ OCCUPATIONAL SCHOOL).................................................................1
OTHER SCHOOL OR SCHOOL DISTRICT (ELEMENTARY, JUNIOR HIGH, HIGH SCHOOL, OR ADULT LEARNING CENTER) ..............2
PRIVATE BUSINESS/COMPANY/HOSPITAL ......................................3
GOVERNMENT AGENCY (FEDERAL, STATE, LOCAL) .......................4
PROFESSIONAL ASSOCIATION/ORGANIZATION/UNION..............5
PUBLIC LIBRARY ............................................................................6
COMMUNITY OR RELIGIOUS ORGANIZATION, NONPROFIT.........7
OTHER..........................................................................................91
ESPRTOS/R SPECIFY ________________________________________

If AA6 = 1 and AA8 NE 2 (worked in the past 12 months and not self-employed only), go to AB6. Else, go to AB7.

AB6.
(Is/Was) the (INSTRUCTIONAL PROVIDER) also your employer?

ESPROVEM
YES ..........................................................................................1
NO..............................................................................................2

AB7.
(Are you taking /Did you take) the ESL classes for college credit?

ESCOLL
YES ..........................................................................................1
NO..............................................................................................2

AB8.
(Are/Were) the ESL classes part of a family literacy program, such as Even Start or Head Start?

ESFMLIT
YES ........................................................................................................1
NO .........................................................................................................2

AB9. In the past 12 months, how many total hours did you attend the ESL classes?
ESHRYR TOTAL HOURS.............................................................................. •

If R has difficulty reporting the total hours, ask AB10 and AB11. Else, go to AB12.

AB10.
Thinking about the length of the ESL classes you (are attending/attended), how many days, weeks, or months did you attend the classes in the past 12 months?
[DO NOT ROUND. USE DECIMAL IF NEEDED.]

NUMBER.................................................................................................... •

Unit
DAYS ........................................................................................................ 1
WEEKS.................................................................................................. 2
MONTHS............................................................................................... 3
SEMESTER ........................................................................................... 4
QUARTER ............................................................................................ 5
OTHER ................................................................................................. 91

SPECIFY

AB11.
For about how many hours did you attend the ESL classes (during each (day/week/month))?

[DO NOT ROUND. USE DECIMAL IF NEEDED.] [INFORMATION PROVIDED FOR AB10 AND AB11 WILL BE USED TO CALCULATE TOTAL HOURS PER YEAR FOR INCORPORATION INTO AB9 AND DELIVERY ON THE PUBLIC-USE DATA FILE.]
AB12.
In the past 12 months, about how much of your own or your family’s money did you pay for...

ESTUITON
a. Tuition and fees to attend the ESL classes, including

money you borrowed and have to pay back? $......•
ESMATLS
b. How much for books and other materials? $......•

If AB12a > 0 (paid some amount for tuition and fees) and AB12b = 0 (paid nothing for books or materials), ask AB13. Else, go to box before AB14.

AB13.
Did the tuition and fees also include books and other materials?

ESINCBK
YES .............................................1
NO...........................................................................................2

If AA6 = 1 and AA8 NE 2 (worked in the past 12 months and not self-employed only), go to AB14. Else, go to AB22.

AB14. (Have you been/Were you) employed during the time you (have been/were) taking the ESL classes?
ESWORK YES .........................................................................................1 (GO TO AB15)
NO........................................................................................................2 (GO TO AB22)

AB15. Did your employer require you to take the ESL classes?
ESEMPREQ YES .........................................................................................1 (GO TO AB17)
NO........................................................................................................2 (GO TO AB16)

AB16. Did your employer suggest or encourage you to take the ESL classes?
ESEMPSUG YES .........................................................................................1
NO........................................................................................................2

AB17. (Are you taking/Did you take) the ESL classes at your workplace?
ESWRKPL YES .........................................................................................1
NO........................................................................................................2

AB18. (Are you taking/Did you take) the ESL classes during your regular work hours?
ESWRKHR YES .........................................................................................1
NO........................................................................................................2
AB19. (Are/Were) you being paid by your employer during the hours you (are/were) taking the ESL classes?

ESEMPPAI D YES .........................................................................................1
NO ...........................................................................................2

AB20. Did your employer...

YES NO 

ESEMPT UI a. Pay all or part of the tuition and fees for the ESL classes? 1 2
ESEMPPMAT b. Pay all or part of the costs of books and other materials? 1 2

Go to AB22.

AB21. As an adult, have you ever taken classes or had a tutor to learn English?

ESEVER

YES .........................................................................................1
NO ...........................................................................................2

AB22. How well do you read English? Would you say...

READENGL

Very well, .................................................................1
Well, ...............................................................................2
Not well, or.................................................................3
Not at all?.............................................................................4

AB23. How well do you write English? Would you say...

WRITENGL

Very well, .................................................................1
Well, ...............................................................................2
Not well, or.................................................................3
Not at all?.............................................................................4

Basic Skills and GED Preparation Classes

If [AA2 = 2 (no high school diploma)] or [AA3 = 1 (received high school diploma in the past 12 months) and AA4 NE 1 (other than through a regular high school diploma)] or [AA1 (IBGRADE)= 1-8 and AA2OV = 2 (foreign high school diploma and no college degree)], then go to AC1. Else, go to AD1.
AC1. During the past 12 months, did you take any classes or have a tutor...
BSIMPROV
BSGED
BSHSEQUV
a.
b.
c.
YES
To improve your basic reading, writing, and math
skills? ...................................................................................1
To prepare to take the General Educational
Development test, or GED? .................................................1
In some other high school equivalency program
or adult high school program? .............................................1
NO
2
2
2

If any of AC1a-c = 1 (basic skills or GED preparation
classes), go to AC2. Else, go to AC20.

AC2. Are you currently taking basic skills or high school completion classes, have you completed
those classes, or did you stop without completing the classes?
BSNOW CURRENTLY TAKING.................................................................1
COMPLETED ..................................................................................2
STOPPED WITHOUT COMPLETION ............................................3

AC3. (Do/Did) you take the basic skills or high school completion classes mainly for work-
related reasons or mainly for personal interest?
BSREAS WORK-RELATED.................................................................1
PERSONAL INTEREST ................................................................2
BOTH EQUALLY ........................................................................3

AC4. (Are you taking/Did you take) the basic skills or high school completion classes...
YES NO
BSCHIL a. To help your children with school work?..............................1 2
BSJOB b. To get a new job with a different employer? ......................1 2
BSRAISE c. To help you get a raise or promotion? ...............................1 2
BSCOLVOC d. To be able to attend college or vocational school? .........1 2
BSPUBASt e. To meet a requirement for public assistance?...............1 2
BSFEEL f. To improve the way you feel about yourself....................1 2
BSLIFE g. To make it easier to do things on a day-to-day basis? ........1 2
AC5.
Who (do/did) you take your basic skills or high school completion classes from? That is, what type of school, organization, or business (teaches/taught) the classes?
[IF “EMPLOYER”, PROBE: What type of organization is that?] 

BSPRTYP POSTSECONDARY SCHOOL (COLLEGE/UNIVERSITY, COMMUNITY/JUNIOR COLLEGE, VOCATIONAL/TECHNICAL/OCCUPATIONAL SCHOOL) ..........................................................1
OTHER SCHOOL OR SCHOOL DISTRICT (ELEMENTARY, JUNIOR HIGH, HIGH SCHOOL, OR ADULT LEARNING CENTER) ..............2
PRIVATE BUSINESS/COMPANY/HOSPITAL ..................................................3
GOVERNMENT AGENCY (FEDERAL, STATE, LOCAL) .........................4
PROFESSIONAL ASSOCIATION/ORGANIZATION/UNION .................5
PUBLIC LIBRARY ...................................................................................6
COMMUNITY OR RELIGIOUS ORGANIZATION, NONPROFIT ..........7
OTHER .................................................................................................9
BSPRTOS/R SPECIFY ______________________________________________

If AA6 = 1 and AA8 NE 2 (worked in the past 12 months and not self-employed only), go to AC6. Else, go to AC7.

AC6. (Is/Was) the (INSTRUCTIONAL PROVIDER) also your employer?
BSPROVEM YES .........................................................................................1
NO ........................................................................................................2

AC7. (Are/Were) the basic skills or high school completion classes part of a family literacy program, such as Even Start or Head Start?
BSFMLIT YES ..........................................................................................1
NO ........................................................................................................2

AC8. In the past 12 months, how many total hours did you attend the basic skills or high school completion classes?
BSHRYR TOTAL HOURS ........................................................................

If R has difficulty reporting the total hours, go to AC9 and AC10. Else, go to AC11.

AC9.
Thinking about the length of the basic skills or high school completion classes you (are attending/attended), how many days, weeks, or months did you attend the classes in the past 12 months?
[DO NOT ROUND. USE DECIMAL IF NEEDED.]
**NUMBER**....................................................................................................................................

Unit

DAYS .........................................................................................................................................1
WEEKS.......................................................................................................................................2
MONTHS......................................................................................................................................3
SEMESTER..................................................................................................................................4
QUARTER....................................................................................................................................5
OTHER ......................................................................................................................................91

**SPECIFY**

AC10.
For about how many hours did you attend the basic skills or high school completion classes (during each (day/week/month))?

[DO NOT ROUND. USE DECIMAL IF NEEDED.] [INFORMATION PROVIDED FOR AC9 AND AC10 WILL BE USED TO CALCULATE TOTAL HOURS PER YEAR FOR INCORPORATION INTO AC8 AND DELIVERY ON THE PUBLIC-USE DATA FILE.]

* 

HOURS....................................................................................................................................

AC11.
In the past 12 months, about how much of your own or your family’s money did you pay for...

BSTUITON a. Tuition and fees to attend the basic skills or high school completion classes, including money you borrowed and have to pay back?............................................................... $ ,.....

BSMATLS b. How much for books and other materials? ....................................................... $ ,.....

If AC11a > 0 (paid some amount for tuition and fees) and AC11b = 0 (paid nothing for books or materials), ask AC12.

Else, go to box before AC13.

AC12.
Did the tuition and fees also include books and other materials?

BSINCBK
YES ........................................................................................................................................1
NO...........................................................................................................................................2
If $AA6 = 1$ and $AA8 \neq 2$ (worked in the past 12 months and not self-employed only), go to AC13. Else, go to AD1.

AC13.
( Have you been/Were you) employed during the time you (have been/were) taking the basic skills or high school completion classes?

BSWORK
YES .........................................................................................1 (GO TO AC14)
NO...........................................................................................2 (GO TO AD1)

AC14.
Did your employer require you to take the basic skills or high school completion classes?

BSEMPREQ
YES .........................................................................................1 (GO TO AC16)
NO...........................................................................................2 (GO TO AC15)

AC15.
Did your employer suggest or encourage you to take the basic skills or high school completion classes?

BSEMPSUG
YES .........................................................................................1
NO...........................................................................................2

AC16.
( Are you taking/Did you take) the basic skills or high school completion classes at your workplace?

BSWRKPL
YES .........................................................................................1
NO...........................................................................................2

AC17.
( Are you taking/Did you take) the basic skills or high school completion classes during your regular work hours?

BSWRKXHR
YES .........................................................................................1
NO...........................................................................................2
AC18. 
(Are/Were) you being paid by your employer during the hours you (are/were) taking the basic skills or high school completion classes?

BSEMPAID
YES .................................................................1
NO..............................................................................2

AC19. Did your employer...
BSEMPTU1
BSEMPMAT
a.
b.
YES
Pay all or part of the tuition and fees for the basic skills or high school completion classes? ..............1
Pay all or part of the cost for books and other materials? ......1
NO
2
2
Go to AD1.
AC20. As an adult, have you ever taken classes or had a tutor to learn basic skills or to prepare to take a GED test?
BSEVER YES ..............................................................................1
NO..............................................................................2

Credential Programs: College or University Degree Programs

AD1.
(Not including the classes you told us about earlier,) During the past 12 months, were you enrolled in a program to earn a college or university degree, such as an associate's, bachelor's, or graduate degree?

CRDEGREE
AD2.
YES ..............................................................................1
NO..............................................................................2
In what types of college degree programs were you enrolled?
(GO TO AD2)
(GO TO FIRST BOX
AFTER AD2)
[CODE UP TO 5. CATEGORIES CAN BE ENTERED MORE THAN ONCE FOR MULTIPLE PROGRAMS OF THE SAME PROGRAM TYPE.]

CRTYASC ASSOCIATE’S DEGREE (AA, AS) ..............................................................1
CRTYBCH BACHELOR’S DEGREE (BA, BS) ............................................................2
CRTYMAS MASTER’S DEGREE (MA, MS) ............................................................3
CRTYDOC DOCTORATE (PHD, EDD) .................................................................4
CRTYP RF PROFESSIONAL DEGREE BEYOND BACHELOR’S DEGREE

(MEDICINE/MD; DENTISTRY/DDS; LAW/JD/LLB; ETC.) ..................................5
CRTYOOTH ANOTHER DEGREE .................................................................91
CRTYOS1/R-SPECIFY
CRTYOS5/R

If AA1 (IBGRADE) >= 9 (bachelor’s degree or more) go to next box. Else, go to box before AD5.

If AA1 (IBGRADE) = 9 or 10 (bachelor’s degree or some graduate school), display post-baccalaureate certificate. If AA1 = 11 (master’s degree), display post-baccalaureate certificate or post-master’s certificate. If AA1 = 12 or 13 (doctorate or professional degree), display post-baccalaureate, post-master’s certificate, or post-doctoral certificate.

AD3. During the past 12 months, were you enrolled in a program to earn a post-baccalaureate certificate, (post-master’s certificate,) (or post-doctoral certificate)?

CRPOSTDG YES .........................................................................................1
NO..............................................................................................2
(GO TO AD4)
(GO TO BOX AFTER AD4)

AD4. Which certificate was that?
[CODE ALL THAT APPLY]
CRPOSBAC POST-BACCALAUREATE CERTIFICATE ....................................1
CRPOSMAS POST-MASTER’S CERTIFICATE ...............................................2
CRPOSDOC POST-DOCTORAL CERTIFICATE ............................................3

If AD1 = 1 (college degree program) and/or AD3 = 1 (certificate program), ask AD5 for each program coded in AD2 and/or AD4. Else, go to AE1.

AD5.
What was the major subject or field of study of your (DEGREE/CERTIFICATE) program?

CRMAJOR1/R-MAJOR FIELD OF STUDY ______________________________
CRMAJOR3/R2

For Each Program Mentioned

AD6.
Did you take the (DEGREE/CERTIFICATE) program (in (MAJOR)) mainly for work-related reasons or mainly for personal interest?

CRREAS1-WORK-RELATED........................................................................1
CRREAS3 PERSONAL INTEREST .................................................................2
BOTH EQUALLY ..................................................................................3

AD7.
Did you take your (DEGREE/CERTIFICATE) program (in (MAJOR)) to get or to keep a state, industry, or company certificate or license?

CRCERT1-YES .........................................................................................1
CRCERT3 NO...........................................................................................2

AD8.
In what month and year did you start your (DEGREE/CERTIFICATE) program (in (MAJOR))? 

CRSTRTM1-MONTH .............................................................................
CRSTRTM3
CRSTRTY1-YEAR .....................................................................................

CRSTRTY3

2NOTE: Information will be collected for all programs. The final number of College or University Degree Programs will be determined when data collection is complete.

AD9. In what month and year did you complete or do you expect to complete your (DEGREE/CERTIFICATE) program (in (MAJOR))? [IF DON’T KNOW, PROBE WHETHER NEVER COMPLETED OR DO NOT INTEND TO COMPLETE.]

CRCOMPM1-MONTH .............................................................................
CRCOMPM3
CRCOMPY1-YEAR .....................................................................................
If CRCOMP1 - CRCOMP3 = 13 or 14, autocode CRCOMP1 - CRCOMP3 = 13 or 14, respectively.

If the program being collected is for a master’s degree or higher, including post-master’s or post-doctoral certificates (AD2 = 3, 4, 5 and/or AD4 = 2, 3), autocode AD10 to 2 and go to AD11. Else, go to AD10.

AD10. Did you take the (DEGREE/CERTIFICATE) program (in (MAJOR)) at a 2-year community or junior college or at a 4-year college or university?
CRINST1-2-YEAR COMMUNITY OR JUNIOR COLLEGE ......................................1
CRINST3 4-YEAR COLLEGE OR UNIVERSITY ...............................................2
OTHER ...............................................................................................91
CRINSTO1/RSPECIFY__________________________________________________
CRINSTO3/R

AD11. During the past 12 months, have you been enrolled in the (DEGREE/CERTIFICATE) program (in (MAJOR)) as a full-time student, part-time student, or both?
CRPTFT1FULL-TIME STUDENT ...........................................................1
CRPTFT3 PART-TIME STUDENT .........................................................2
BOTH ...............................................................................................3

AD12. In the past 12 months, how many semesters or quarters were you enrolled in your (DEGREE/ CERTIFICATE) program (in (MAJOR))?
CRENRNU1-NUMBER.............................................................................
CRENRNU3
CRENRUN1 Unit
CRENRUN3 SEMESTER .........................................................................1
QUARTER ............................................................................................2
OTHER ...............................................................................................91
CRENRUO1/RSPECIFY_______________________________________________
How many total credit hours were you enrolled in your (DEGREE/CERTIFICATE) program (in (MAJOR)) in the past 12 months?
CRCRDHR1-TOTAL CREDIT HOURS ........................................................... (GO TO AD15)
CRCRDHR3 CREDIT HOURS DO NOT APPLY TO THE DEGREE/CERTIFICATE PROGRAM .............................................................................................................99 (GO TO AD14)
AD14. How many total classroom hours did you take in the past 12 months?
CRCLSHR1 TOTAL
CLASSROOM HOURS ................................................. .....

AD15. In the past 12 months, about how much of your own or your family’s money did you pay for...
CRTUITO1a. Tuition and fees to attend the (DEGREE/CERTIFICATE)
CRTUITO3 program, including money you borrowed and have to pay back?.................................................................$........
CRMATLS1b. How much for books and other materials? .................$........
CRMATLS3
If AD15a > 0 (paid some amount for tuition and fees) and AD15b = 0 (paid nothing for books or materials), ask AD16. Else, go to box before AD17.
AD16. Did the tuition and fees also include books and other materials?
CRINCBK1-YES .........................................................................................1
CRINCBK3 NO...........................................................................................2
If AA6 = 1 and AA8 NE 2 (worked in the past 12 months and not self-employed only), go to AD17. Else, go to AE1.
AD17. (Have you been/Were you) employed during the time you (have been/were) taking the (DEGREE/CERTIFICATE) program (in (MAJOR))?
CRWORK1-YES .........................................................................................1 (GO TO AD18)
CRWORK3 NO...........................................................................................2 (GO TO AE1)
AD18. Did your employer require you to take the (DEGREE/CERTIFICATE) program (in (MAJOR))? 
CREMPRE1-YES .........................................................................................1 (GO TO AD20)
CREMPRE3 NO...........................................................................................2 (GO TO AD19)
AD19 Did your employer suggest or encourage you to take the (DEGREE/CERTIFICATE) program (in (MAJOR))? 
CREMPSU1-YES .........................................................................................1
CREMPSU3 NO...........................................................................................2
AD20. (Are you taking/Did you take) the (DEGREE/CERTIFICATE) program (in (MAJOR)) at your workplace?
CRWRKPL1 YES .........................................................................................1
CRWRKPL3 NO...........................................................................................2
AD21. (Are you taking/Did you take) the (DEGREE/CERTIFICATE) program (in (MAJOR)) during your regular work hours?
CRWRKHR1-YES .........................................................................................1
CRWRKHR3 NO...........................................................................................2
AD22. (Are/Were) you being paid by your employer during the hours you (are/were) taking the (DEGREE/CERTIFICATE) program (in (MAJOR))?  

CREMPAI1-YES .............................................................................................1  
CREMPAI3 NO.............................................................................................2  

AD23. Did your employer...  
YES NO  
CREMPTU1 CREMPTU3  
CREMPMA1a.  
b. Pay all or part of the tuition and fees for the (DEGREE/CERTIFICATE) program (in (MAJOR))? .........................1  
Pay all or part of the costs of books and other materials? .....1  
2  
2  
CREMPMA3  

Credential Programs: Vocational or Technical Diploma Programs  

AE1. During the past 12 months, were you enrolled in a program to earn a vocational or technical diploma after high school?  
CRVOCDIP YES .........................................................................................1 (GO TO AE2)  
NO...........................................................................................................2 (GO TO AF1)  

AE2. In what types of vocational or technical diploma programs were you enrolled?  
[CODE UP TO 5. CATEGORIES CAN BE ENTERED MORE THAN ONCE FOR MULTIPLE PROGRAMS OF THE SAME PROGRAM TYPE.]  
VOVOC VOCATIONAL DIPLOMA.................................................................1  
VOTECH TECHNICAL DIPLOMA.................................................................2  
VOASSOC ASSOCIATE’S DEGREE (AA, AS) ...........................................3  
VOOTHDIP ANOTHER DIPLOMA OR CERTIFICATE .................................91  
VOTYOS1/RSPECIFY  
VOTYOS5/R  

Ask AE3 for each program coded in AE2.  

AE3. What was the major subject or field of study of your (VOC/TECH) program?  

VOMAJOR1/R-MAJOR FIELD OF STUDY  
VOMAJOR2/R3
For Each Program Reported

AE4.
Did you take the (VOC/TECH) program (in (MAJOR)) mainly for work-related reasons or mainly for personal interest?

VOREAS1-WORK-RELATED........................................................................1
VOREAS2 PERSONAL INTEREST ................................................................2
BOTH EQUALLY .........................................................................................3

AE5.
Did you take your (VOC/TECH) program (in (MAJOR)) to get or to keep a state, industry, or company certificate or license?

VOCERT1-YES .........................................................................................1
VOCERT2 NO...........................................................................................2

3NOTE: Information will be collected for all programs. The final number of Vocational or Technical Diploma Programs will be determined when data collection is complete.

AE6
In what month and year did you start your (VOC/TECH) program (in (MAJOR))? 

VOSTRTM1-MONTH ..................................................................................
VOSTRTM2
VOSTRTY1-YEAR ....................................................................................
VOSTRTY2

AE7.
In what month and year did you complete or do you expect to complete your (VOC/TECH) program (in (MAJOR))? [IF DON’T KNOW, PROBE WHETHER NEVER COMPLETED OR DON’T INTEND TO COMPLETE.]

VOCOMPM1-MONTH ..................................................................................
VOCOMPM2
VOCOMPY1-YEAR ...................................................................................
VOCOMPY2-NEVER COMPLETED ............................................................13
DO NOT INTEND TO COMPLETE..............................................................14
If VOCOMPM1 - VOCOMPM2 = 13 or 14, autocode VOCOMPY1 – VOCOMPY2 = 13 or 14, respectively.

AE8.
During the past 12 months, have you been enrolled in the (VOC/TECH) program (in (MAJOR)) as a full-time student, part-time student, or both?

VOPTFT1-FULL-TIME STUDENT ..............................................................1
VOPTFT2 PART-TIME STUDENT.................................................................2
BOTH ...........................................................................................................3

AE9.
In the past 12 months, how many months, semesters, or quarters were you enrolled in your (VOC/TECH) program (in (MAJOR))?

VOENRNU1-NUMBER........................................................................... ....
VOENRNU2
VOENRUN1-Unit
VOENRUN2 MONTH ..................................................................................1
SEMESTER .................................................................................................2
QUARTER ...................................................................................................3
OTHER .......................................................................................................91
VOENRUO1/R-SPECIFY________________________________________________
VOENRUO2/R

AE10.
How many courses did you take in your (VOC/TECH) program (in (MAJOR)) in the past 12 months?

VOCRNSNU1-NUMBER.............................................................................. ....
VOCRNSNU2

AE11. How many total credit hours were you enrolled in your (VOC/TECH) program (in (MAJOR)) in the last 12 months?

VOCRDRH1-TOTAL CREDIT HOURS ............................................................ (GO TO AE13)
VOCRDRH2 CREDIT HOURS DO NOT APPLY TO THE VOC/TECH PROGRAM .................................................................99 (GO TO AE12)

AE12. How many total classroom hours did you take in the past 12 months?

VOCLSHR1-TOTAL CLASSROOM HOURS ..................................................... ......
VOCLSHR2

AE13. In the past 12 months, about how much of your own or your family’s money did you pay for...
Tuition and fees to attend the (VOC/TECH) program, including money you borrowed and have to pay back? 

How much for books and other materials? 

If $AE_{13a} > 0$ (paid some amount for tuition and fees) and $AE_{13b} = 0$ (paid nothing for books or materials), ask AE14. Else, go to box before AE15.

AE14. Did the tuition and fees also include books and other materials?

If $AA_6 = 1$ and $AA_8 \neq 2$ (worked in the past 12 months and not self-employed only), go to AE15. Else, go to AF1.

AE15. (Have you been/Were you) employed during the time you (have been/were) taking the (VOC/TECH) program (in (MAJOR))? 

AE16. Did your employer require you to take the (VOC/TECH) program (in (MAJOR))? 

AE17. Did your employer suggest or encourage you to take the (VOC/TECH) program (in (MAJOR))? 

AE18. (Are you taking/Did you take) the (VOC/TECH) program (in (MAJOR)) at your workplace?

AE19. (Are you taking/Did you take) the (VOC/TECH) program (in (MAJOR)) during your regular work hours?

AE20. (Are you being paid/Did you receive) paid by your employer during the hours you (are/were) taking the (VOC/TECH) program (in (MAJOR))?
(VOC/TECH) program (in (MAJOR))?

VOEMPAA1-YES ..............................................................................................1
VOEMPAA2 NO..................................................................................................2

AE21.
Did your employer...

YES NO
VOEMPTU1-a. Pay all or part of the tuition and fees for the (VOC/TECH) VOEMPTU2 program (in (MAJOR))?..........................................................1 2
VOEMPMA1-b. Pay all or part of the costs of books and other materials? .....1 2
VOEMPMA2

Apprenticeship Programs

AF1. During the past 12 months, were you in a formal apprenticeship program leading to journeyman status in a skilled trade or craft?
APRENTI YES ..........................................................1 (GO TO AF2)
NO.........................................................................................2 (GO TO AG1)

AF2. In what trade or craft did you apprentice?
APTRADE/R TRADE OR CRAFT

If AA6 = 1 and AA8 NE 2 (worked in the past 12 months and not self-employed only), go to AF3a. Else, go to AF3b.

AF3.
Who provided the program? Was it...

YES NO
APEMPLOY a. Your employer?..........................................................1 2
APUNION b. A labor union?..........................................................1 2
APSTAGOV c. The local or state government? ......................................1 2
APFEDGOV d. The federal government?..............................................1 2
APOTHER e. Anyone else? .............................................................1 2
APOTHEOS/R Who provided the program?

AF4.
In what month and year did you start the (TRADE) apprenticeship program?

APSTRRTMM MONTH ...........................................................................
APSTRRTYY YEAR .............................................................................
AF5.
In what month and year did you complete or do you expect to complete the program? [IF DON’T KNOW, PROBE WHETHER NEVER COMPLETED OR DO NOT INTEND TO COMPLETE.]

APCOMPMM MONTH .................................................................................. •
APCOMPYY YEAR .................................................................................. •

NEVER COMPLETED ..............................................................................13

DO NOT INTEND TO COMPLETE..........................................................14

If APCOMPMM = 13 or 14,
autocode APCOMPYY = 13 or 14 , respectively.

AF6. In the past 12 months, how many total classroom or instruction hours did you spend in the (TRADE) apprenticeship program?
APCLSHR TOTAL HOURS............................................................................ •

If AF6 = 0 (no classroom or instruction hours), go to AF8.
Else, go to AF7.
AF7. Were any of these courses you took in the past 12 months taken for college credit?
APCOLCR YES .........................................................................................1
NO........................................................................................................2

AF8. In the past 12 months, about how much of your own or your family’s money did you pay for...
APTUITON
APMATLS

a.
b.
Tuition and fees to attend the (TRADE) apprenticeship program, including money you borrowed and have to pay back? .................................................................................................. $........ •
How much for books and other materials? .............................................. $........ •
If AF8a > 0 (paid some amount for tuition and fees) and
AF8b = 0 (paid nothing for books or materials), ask AF9.
Else, go to AG1.
AF9. Did the tuition and fees also include books and other materials?
APINCBK YES .................................................................................................1
NO...........................................................................................................2
Participation In Formal Courses

AG1.
These next questions are about any courses that were not part of a degree or diploma program. This includes work or career-related courses, seminars, training, or workshops whether or not you had a job when you took them. Also, you might have taken other courses related to your personal interests or hobbies, first aid or CPR, religion, health, and so on. (Not counting the programs we talked about earlier.) (Did/did) you take any courses in the past 12 months?

FCACTY
YES .........................................................................................1 (GO TO AG3)
NO..............................................................................................2 (GO TO AG2)

AG2.
Have you taken any training sessions, seminars, or courses on computer skills, the Internet, communication or diversity, stress management, or any other work-related issues?
What about any Bible study or other religious classes, personal finance or home computing classes, dance or musical instrument, health or fitness, or foreign language classes or workshops?
[READ BOTH PROBES.]
FCACTOTH YES, ONE OR BOTH .................................................................1
NO TO BOTH ....................................................................................2
(GO TO AG3)
(GO TO BOX BEFORE AJ1)

Roster Courses

AG3.
With your help, I'm going to make a list of the courses you took where there was an instructor. (Again, not counting the programs we talked about earlier,) please tell me the name and subject matter for each course you have taken in the past 12 months. [MAY RECORD UP TO 20 COURSES.]

FCNAME1/R-COURSE NAME ___________ SUBJECT ____________________
FCNAME20/R COURSE NAME ___________ SUBJECT ____________________
FCSUBJ1/R-COURSE NAME ___________ SUBJECT ____________________
FCSUBJ20/R COURSE NAME ___________ SUBJECT ____________________
COURSE NAME ___________ SUBJECT ____________________
COURSE NAME ___________ SUBJECT ____________________

110
Upon completion of the initial course/subject listing, go to AG2VERF if AG1 = 1. Else, go to AG2VERF2. For second and any additional course/subject listings, go to AG2VERF2.

AG2VERF. Have you taken any other training sessions, seminars, or courses on computer skills, the Internet, communication or diversity, stress management, or any other work-related issues in the past 12 months?
What about any Bible study or other religious classes, personal finance or home computing classes, dance or musical instrument, health or fitness, or foreign language classes or workshops?

[READ BOTH PROBES.]
* MATRIX CORRECT ........................................................................1 (GO TO BOX BEFORE AG4)
RETURN TO MATRIX ........................................................................2 (GO TO AG3)

AG2VERF2. Have you taken any other work-related or personal interest courses in the past 12 months?

* MATRIX CORRECT ........................................................................1 (GO TO BOX BEFORE AG4)
RETURN TO MATRIX ........................................................................2 (GO TO AG3)

For each course listed in AG3, ask AG4 and AG5.
AG4. Did you take the (COURSE NAME) course mainly for work-related reasons or mainly for personal interest?
FCREAS1/RWORK-RELATED........................................................................1
FCREAS2/R PERSONAL INTEREST .................................................................2
BOTH EQUALLY .........................................................................................3
AG5. In the past 12 months, how many total hours did you attend the (COURSE NAME) course?
FCCLSHR1/RTOTAL HOURS..............................................................................
FCCLSHR20/R4
WRCLSHR1-WRCLSHR4
SACLSHR1-SACLSHR2

If R reported fewer than 20 courses at AG3 and all AG4 = 1 (reported courses are all work-related courses) or all AG4 = 2 (reported courses are all personal interest courses), go to AG6. Else, go to box before INTRO4.

AG6. In the past 12 months, did you take any courses mainly for (work-related reasons/personal interest)?
FCOTH YES .............................................................................................................1
NO.....................................................................................................................2

If AG6 = 1 (any additional courses), go to AG7. Else, if any
AG4 = 1 or 3 then go to box before INTRO4. Else, if any AG4
= 2, go to box before INTRO5.

AG7.
Please tell me the name and subject matter for each of these courses you took in the past 12
months. [RECORD UP TO 20 COURSES.]

FCNAME1/R-COURSE NAME _____________ SUBJECT ___________________
FCNAME20/R COURSE NAME _____________ SUBJECT ___________________
FCSUBJ1/R-COURSE NAME _____________ SUBJECT ___________________
FCREAS20/R COURSE NAME _____________ SUBJECT ___________________

COURSE NAME _____________ SUBJECT ___________________

4NOTE: FCCLSHR1-FCCLSHR20 will be used to sort courses for sampling work-related or
personal interest courses. Then, FCCLSHR1FCCLSHR20
will be copied to WRCLSHR1-WRCLSHR4 for sampled work-related courses and SACLSHR1-
SACLSHR2 for sampled personal
interest courses. WRCLSHR1-WRCLSHR4 and SACLSHR1-SACLSHR2 will appear on the AE
public-use data file.

Upon completion of the initial course/subject listing in AG7,
go to AG2VERF3.

AG2VERF3. Have you taken any other (work-related/personal interest) courses in the past 12
months?
* MATRIX CORRECT .........................................................................................1 (GO TO NEXT BOX)
RETURN TO MATRIX .........................................................................................2 (GO TO AG7)

For all courses reported at AG7, autocode AG4 =1 if all
previously reported courses were personal development
(AG4 = 2) or autocode AG4 = 2 if all previously reported
courses were work-related (AG4 = 1). Ask AG5 for each
course reported at AG7 then go to box before INTRO4.

Work-Related Courses

If no work-related courses (all AG4 = 2), go to box before
INTRO5. If 4 or fewer courses, select all. Else if 5 courses
or more, sort by class hours (AG5), and select systematic
random sample of 4 courses.
INTRO4. Right now I’m interested in talking with you about (some of) the course(s) you took for work-related reasons. That is, [DISPLAY COURSE NAME(S)].

For each course sampled, ask AH1-AH16.

AH1. Are you currently taking the (COURSE NAME) course, have you completed the course, or did you stop without completing it?

WRCURR1 CURRENTLY TAKING .................................................................1
WRCURR4 COMPLETED .............................................................................2
STOPPED WITHOUT COMPLETION ......................................................3

AH2. (Are you taking/Did you take) the (COURSE NAME) course...

[ROTATE RESPONSE CATEGORIES.]

YES NO
WRRSSKI1a. To maintain or improve skills or knowledge you
WRRSSKI4 already had? .................................................................................1 2
WRNWSKI1b. To learn new skills or methods you did not already know? ....1 2
WRRSRAI1c. To help you get a raise or promotion ......................................1 2
WRRSNEW1d. To get a new job with a different employer? .........................1 2
WRRSNEW4
WRRSCER1e. To get or to keep a state, industry, or company
WRRSCER4 certificate or license? ..............................................................1 2
WRRSREQ1f. Because you were required to take it? ..............................1 2
WRRSREQ4

AH3.

Who (do/did) you take the (COURSE NAME) course from? That is, what type of school, organization, or business (teaches/taught) the course?

[IF “EMPLOYER”, PROBE: What type of organization is that?]

WRPRTYP1-POSTSECONDARY SCHOOL (COLLEGE/UNIVERSITY,
WRPRTYP4 COMMUNITY/JUNIOR COLLEGE, VOCATIONAL/TECHNICAL/
OCCUPATIONAL SCHOOL) .........................................................................1
OTHER SCHOOL OR SCHOOL DISTRICT (ELEMENTARY, JUNIOR
HIGH, HIGH SCHOOL, OR ADULT LEARNING CENTER) .....................2

113
PRIVATE BUSINESS/COMPANY/HOSPITAL ....................................3
GOVERNMENT AGENCY (FEDERAL, STATE, LOCAL) ......................4
PROFESSIONAL ASSOCIATION/ORGANIZATION/UNION ..........5
PUBLIC LIBRARY .......................................................................6
COMMUNITY OR RELIGIOUS ORGANIZATION, NONPROFIT ........7
OTHER ..................................................................................91
WRPRTOS1/R SPECIFY ________________________________________
WRPRTOS4/R ..............................................................................

If AA6 = 1 and AA8 NE 2 (worked in the past 12 months and
not self-employed only), go to AH4. Else, go to AH5.

AH4. (Is/Was) the (INSTRUCTIONAL PROVIDER) also your employer?
WRPROVE1-YES ........................................................................1
WRPROVE4 NO............................................................................2

AH5. (Will/Did) you earn college credit for the (COURSE NAME) course?
WRCRED1-YES ............................................................................1
WRCRED4 NO............................................................................2

AH6. (Will/Did) you (also) earn Continuing Education Units, or CEUs, for the (COURSE
NAME) course?
WRCEU1-YES ............................................................................1
WRCEU4 NO............................................................................2

If AA6 = 1 (worked in the past 12 months), go to AH7. Else,
go to AH8.

AH7. How useful are the skills or knowledge you learned in the (COURSE NAME) course in
your job?
Would you say...
WRJOBSK1- Very useful.........................................................1
WRJOBSK4 Useful.................................................................2
Somewhat useful, or .............................................................3
Not too useful? ......................................................................4
NOT CURRENTLY EMPLOYED .................................................5

AH8. In the past 12 months, about how much of your own or your family’s money did you pay
for...
WRTUITO1-a. Tuition and fees to attend the (COURSE NAME) course,
WRTUITO4 including money you borrowed and have to pay back?........$........•
WRMATLS1-b. How much for books and other materials?....................... $........
WRMATLS4
If AH8a > 0 (paid some amount for tuition and fees) and
AH8b = 0 (paid nothing for books or materials), ask AH9.
Else, go to box before AH10.
AH9. Did the tuition and fees also include books and other materials?
WRINCBK1-YES .................................................................1
If \( AH1 = 1 \) and \( AH4 = 1 \), then autocode \( AH10 \) to 1 and go to \( AH11 \). Else, if \( AA6 = 1 \) and \( AA8 \neq 2 \) (worked in the past 12 months and not self-employed only), go to \( AH10 \). Else, go to box before \( AH17 \).

**AH10.** (Have you been/Were you) employed during the time you (have been/were) taking the \( (COURSE\ NAME) \) course?

- \( WRWORK1-YES \) ..........................................................................................1 (GO TO \( AH11 \))
- \( WRWORK4 NO \)...........................................................................................2 (GO TO BOX BEFORE \( AH17 \))

**AH11.**

(Did your employer require/Was it your employer who required) you to take the \( (COURSE\ NAME) \) course?

- \( WREMPRE1-YES \) ..........................................................................................1 (GO TO \( AH13 \))
- \( WREMPRE4 NO \)...........................................................................................2 (GO TO \( AH12 \))

**AH12.**

Did your employer suggest or encourage you to take the \( (COURSE\ NAME) \) course?

- \( WREMPSU1-YES \) ..........................................................................................1
- \( WREMPSU4 NO \)...........................................................................................2

**AH13.**

(Are you taking/Did you take) the \( (COURSE\ NAME) \) course at your workplace?

- \( WRWRKPL1-YES \) ..........................................................................................1
- \( WRWRKPL4 NO \)...........................................................................................2

**AH14**

(Are you taking/Did you take) the \( (COURSE\ NAME) \) course during your regular work hours?

- \( WRWRKHR1-YES \) ..........................................................................................1
- \( WRWRKHR4 NO \)...........................................................................................2

**AH15.**

(Are/Were) you being paid by your employer during the hours you (are/were) taking the
(COURSE NAME) course?

WREMPA11-YES .........................................................................................1
WREMPA14 NO..........................................................................................2

AH16. Did your employer...
YES NO
WREMPPTU1-a. Pay all or part of the tuition and fees for the
WREMPPTU4 (COURSE NAME) course? .......................................................1 2
WREMPMA1-b. Pay all or part of the costs of books and other materials? .....1 2
WREMPMA4

If R took more than 4 work-related courses, ask AH17 after all sampled courses are cycled through. Else, go to box before INTRO5. If R took more than 4 work-related courses and AA6 = 1 and AA8 NE 2 (worked in the past 12 months and not self-employed only), ask AH17a-e. Else, ask AH17b and AH17e.

AH17. In addition to the courses we just talked about, you mentioned earlier that you took (an)other course(s) for work-related reasons. That is, [DISPLAY COURSE NAMES]. (Was/Were) (any of) the(se) other work-related course(s)...
YES NO
WROREQ a. Required by your employer? ...................................................1 2
WROCOLL b. Taught by a college or university? .........................................1 2
WROPAY c. Supported by your employer through paying all or part of the cost? ..............................................................................1 2
WROTME d. Supported by your employer through giving you time off with pay? ..............................................................................1 2
WROCERT e. To get or to keep a state, industry, or company certificate or license? .................................................................1 2

Personal Interest/Development Courses

If no courses taken mainly for personal interest (all AG4 = 1 or 3), go to box before AJ1. If 1 or 2 personal development courses, select all. Else if 3 courses or more, sort by class hours (AG5), and take systematic random sample of 2 courses.

INTRO5. Right now I’m interested in talking with you about (some of) the course(s) you took for personal interest or personal development. That is, [DISPLAY COURSE NAME(S)].

For each course sampled, ask AI1- AI12.
AI1.
Are you currently taking the (COURSE NAME) course, have you completed the course, or did you stop without completing it?

SACURR1-CURRENTLY TAKING.................................................................1
SACURR2 COMPLETED ........................................................................2
STOPPED WITHOUT COMPLETION .........................................................3

AI2.
Who (do/did) you take the (COURSE NAME) course from? That is, what type of school, organization, or business (teaches/taught) the course?
[IF "EMPLOYER", PROBE: What type of organization is that?]

SAPRTYP1-POSTSECONDARY SCHOOL (COLLEGE/UNIVERSITY,
SAPRTYP2 COMMUNITY/JUNIOR COLLEGE, VOCATIONAL/TECHNICAL/
OCCUPATIONAL SCHOOL)................................................................1
OTHER SCHOOL OR SCHOOL DISTRICT (ELEMENTARY, JUNIOR HIGH, HIGH SCHOOL, OR ADULT LEARNING CENTER) ...............2
PRIVATE BUSINESS/COMPANY/HOSPITAL .............................................3
GOVERNMENT AGENCY (FEDERAL, STATE, LOCAL) .........................4
PROFESSIONAL ASSOCIATION/ORGANIZATION/UNION .................5
PUBLIC LIBRARY ..................................................................................6
COMMUNITY OR RELIGIOUS ORGANIZATION, NONPROFIT ............7
OTHER ..................................................................................................91
SAPRTOSI1/R-SPECIFY _____________________________________________
SAPRTOS2/R

If AA6 = 1 and AA8 NE 2 (worked in the past 12 months and not self-employed only), go to AI3. Else, go to AI4.

AI3. (Is/Was) the (INSTRUCTIONAL PROVIDER) also your employer?
SAPROVE1-YES ....................................................................................1
SAPROVE2 NO ......................................................................................2

AI4. (Will/Did) you earn college credit for the (COURSE NAME) course?
SACRED1 YES ......................................................................................1
SACRED2 NO .......................................................................................2

AI5. (Will/Did) you (also) earn Continuing Education Units, or CEUs, for the (COURSE NAME) course?
SACEU1-YES .......................................................................................1
SACEU2 NO ..........................................................................................2

AI6. In the past 12 months, about how much of your own or your family’s money did you pay for...
SATUITO1-a. Tuition and fees to attend the (COURSE NAME) course,
SATUITO2 including money you borrowed and have to pay back? ..........$........
SAMATLS1-b. How much for books and other materials? .................... $........
SAMATLS2

If AI6a > 0 (paid some amount for tuition and fees) and
AI6b = 0 (paid nothing for books or materials), ask AI7. Else,
go to box before AI8.

AI7. Did the tuition and fees also include books and other materials?

SAINCBK1-YES ............................................................................1
SAINCBK2 NO............................................................................2

If AI1 = 1 and AI3 = 1 then autocode AI8 to 1 and go to AI9.
Else, if AA6 = 1 and AA8 NE 2 (worked in the past 12 months
and not self-employed only), go to AI8. Else, go to box
before AI13.

AI8. (Have you been/Were you) employed during the time you (have been/were) taking the
(COURSE NAME) course?
SAWORK1-YES ...........................................................................1 (GO TO AI9)
SAWORK2 NO............................................................................2 (GO TO BOX
BEFORE
AI13)

AI9. (Are you taking/Did you take) the (COURSE NAME) course at your workplace?
SAWRKPL1-YES ........................................................................1
SAWRKPL2 NO............................................................................2

AI10. (Are you taking/Did you take) the (COURSE NAME) course during your regular work
hours?
SAWRKHR1-YES ........................................................................1
SAWRKHR2 NO............................................................................2

AI11. (Are/Were) you being paid by your employer during the hours you (are/were) taking the
(COURSE NAME) course?
SAEMPAI1 YES ............................................................................1
SAEMPAI2 NO............................................................................2

AI12. Did your employer...
YES NO
SAEMPTU1-a. Pay all or part of the tuition and fees for the
SAEMPTU2 (COURSE NAME) course?..............................................1 2
SAEMPMA1b.
Pay all or part of the costs of books and other materials? .....1 2
SAEMPMA2
If R took more than 2 personal interest courses, ask AI13 after all sampled courses are cycled through. Else, go to box before AJ1. If R took more than 2 personal interest courses and AA6 = 1 and AA8 NE 2 (worked in the past 12 months and not self-employed only), ask AI13a-d. Else, ask AI13b.

AI13.
In addition to the courses we just talked about, you mentioned earlier that you took (an)other course(s) for personal interest. That is, [DISPLAY COURSE NAMES]. (Was/Were) any of the(se) other personal interest course(s)...

YES NO
SAOREQ a. Required by your employer?...................................................1 2
SAOCOLL b. Taught by a college or university?.................................1 2
SAOPAY c. Supported by your employer through paying all or part of the cost? .................................................................1 2
SAOTIME d. Supported by your employer through giving you time off with pay?.................................................................1 2

Distance Learning
If respondent was a participant, go to AJ1. Else go to AK1.

AJ1.
Now I have some questions about distance education. What we mean by distance education is that some or all of the instruction for a course is provided using some kind of technology, while the person taking the course is at a different place from the instructor. Using technology in a class with an instructor present is not considered to be distance education.

Did any courses or programs you took in the last 12 months involve distance education using any of the following methods? How about...

YES NO
DEVIDTCD a. instruction using video tapes, CDs, or DVDs?...............1 2
DETVRAD b. instruction by television or radio? .................................1 2
DEWWW c. instruction over the Internet or World Wide Web?..............1 2
DECOMP d. instruction using computer conferencing or video conferencing?.................................................................1 2
DEEMAIL e. instruction by mail, for example, correspondence courses? ..1 2
DEPHONE f. instruction by telephone or voicemail?..............................1 2
DEOTH g. any other types of remote instruction technology? ............... 1 2
DEOTHOS/R SPECIFY ________________________________________________

If any AJ1a-g = 1 go to next box. Else go to AK1.

If R took only one type of AE, autocode type in
AJ2 and go to AK1. Else, ask AJ2.

AJ2.
Which of the educational activities you told me about used distance education?
How about...

[DISPLAY ONLY TYPES REPORTED EARLIER IN INTERVIEW. ]

YES NO
DEESL a. English as a second language classes? ......................... 1 2
DEBASIC b. Basic skills or GED classes? .................................. 1 2
DECOLL c. College or university programs? ............................. 1 2
DEVOSA d. Vocational or technical programs? .......................... 1 2
DEAPPR e. Apprenticeship programs? .................................... 1 2
DEWORK f. Work-related courses? ..................................... 1 2
DEPERS g. Courses you took for personal interest? ..................... 1 2

Informal Learning Activities for Personal Interest

AK1.
Up to now, we’ve talked about programs, courses, or classes. Now I’d like to talk with you about
other ways that people learn things for personal interest besides classes that have an instructor. This
might include things you do to learn something related to a hobby, your home, health, religion, or
other areas that are of personal interest to you. These next questions do not include learning for a job.

In the past 12 months, have you...

YES NO
PICOMP a. done any learning on your own for personal interest using
computer software tutorials, including CD-ROM or the
Internet? ....................................................................................... 1 2

PISELF b. done any learning on your own using books, manuals,
audio tapes, videos, or TV about a topic of personal interest? 1 2
PIMAG c.
read how-to magazines, consumer magazines, or other
publications related to some area of personal interest?........... 1 2

PICLUB d.
attended a book club, sports-related club, health-related
support group, arts and crafts group, or a similar club or group
where you learned new information? ....................................... 1 2

PISHOW e.
attended a convention or conference where you
learned about something of personal interest, like a garden
show, a car show, a science fiction convention, or a music
conference?..............................................................................1 2

PIOTH f. done some other type of informal learning for personal
interest?....................................................................................1 2
PIOTHOS/R SPECIFY ______________________________________

Remaining Background Questions

Any background information gathered in a previous interview
is not asked again.

AL1. Now, I would like to ask you a few more questions about your background. In what month and
year were you born?
ADOBMM MONTH ..•
YEAR 19..•
ADOBYY
1 JANUARY 7 JULY
2 FEBRUARY 8 AUGUST
3 MARCH 9 SEPTEMBER
4 APRIL 10 OCTOBER
5 MAY 11 NOVEMBER
6 JUNE 12 DECEMBER

Calculate current age for display in AL2. If current age does
not match Screener age or birth month is current month, go
to AL2. Else, go to AL3.

AL2. That would mean that you [are (AGE)/turn (AGE) this month]. Is that right?
* YES .........................................................................................1 (GO TO AL3)
NO...........................................................................................2 (RETURN TO AL1)
AL3. Are you of Spanish, Hispanic, or Latino origin?
AHISPANI YES .........................................................................................1
NO...........................................................................................2
AL4. Which of the following races do you consider yourself to be? You may name more than one.
[IF” HISPANIC” PROBE: Is that White Hispanic, Black Hispanic, both, or something else?]
[CODE ALL THAT APPLY]
Are you...
AWHITE White, ..................................................................................1
ABLACK Black or African American, ....................................................2
AAMIND American Indian or Alaska Native, .........................................3
AASIAN Asian, or..................................................................................4
APACI Native Hawaiian or other Pacific Islander? ...............................5
ARACEOTH OTHER RACE ........................................................................91
ARACEOS SPECIFY __________________________________________________

AL5. AREMARSTATAre you currently...
Married, .........................................................................................1
Separated, ......................................................................................2
Divorced, .........................................................................................3
Widowed, or ....................................................................................4
Never married? .............................................................................5
(GO TO AL6)
(GO TO BOX)
(GO TO BOX)
(GO TO BOX)
(GO TO BOX)
If any HH member other than respondent is age 16 or over, ask AL50V. Else, go to AL6.
AL50V. Are you currently living with a partner?
ALIVWITH YES ..................................................................................1
NO...........................................................................................2
AL6. LRNDISBVISHEAR
Do you have any of the following:
YES
a. A learning disability, such as dyslexia, Attention Deficit Disorder, or Attention Deficit Hyperactivity Disorder? ......................... 1
b. A vision or hearing disability that affects your learning? 1
NO
2
2
If AL6 a or b = 1, go to AL8. Else, go to AL7.
AL7. Does any long-term physical, mental, or emotional problem limit you in any way? Please
include only conditions that have lasted 6 months or more, but not (pregnancy or) temporary conditions such as a cold.

ADISABL YES ..................................................................................1
NO..................................................................................................2

AL8. In what state, country, or territory were you born?

ABORNUS
ATERROS/R
ACONTOS/R
ONE OF 50 STATES OR THE DISTRICT OF COLUMBIA ....................1
ONE OF THE U.S. TERRITORIES [PUERTO RICO, GUAM,
AMERICAN SAMOA, U.S. VIRGIN ISLANDS, MARIANA ISLANDS,
OR SOLOMON ISLANDS].............................................................2
SPECIFY
SOME OTHER COUNTRY..............................................................3
SPECIFY
(GO TO BOX
BEFORE AL11)
(GO TO AL8OV)
(GO TO AL8OV)
AL8OV. How old were you when you first moved to the (United States/50 states or the District of Columbia)?
AMOVEAGE AGE .................................................................................... •

If AL8OV =6, go to AL9. Else, go to box before AL10.

AL9. What was the highest grade or year of school that you completed before moving to the U.S.?

USGRADE NO SCHOOL.................................................................1
LESS THAN HIGH SCHOOL DIPLOMA ............................................2
HIGH SCHOOL DIPLOMA/EQUIVALENT.......................................3
VOCATIONAL/TECHNICAL DIPLOMA OR CERTIFICATE ...............4
SOME COLLEGE BUT NO DEGREE ...........................................5
ASSOCIATE’S DEGREE (AA, AS) ..............................................6
BACHELOR’S DEGREE (BA, BS)..................................................7
MASTER’S DEGREE (MA, MS)....................................................8
DOCTORATE DEGREE (PHD, EDD)...........................................9
PROFESSIONAL DEGREE BEYOND BACHELOR’S DEGREE
(MEDICINE/MD; DENTISTRY/DDS; LAW/JD/LLB; ETC.) ..........10

If AA10 = 2 or 91 (first language is not English), go to AL10.
Else, go to box after AL10.
AL10.
Did you study English before you first came to the (United States/50 states or the District of Columbia)?

ASTUENG
YES .................................................................................................1
NO.................................................................................................2

If AA6 = 2 (did not work in the past 12 months),
autocode AL11 = 2 and AL12 = 2 and go to box before
AL14. Else, go to AL11.

AL11.
During the past week, did you work at a job for pay or income, including self-employment?

IBWORK
YES .................................................................................................1 (GO TO AL13)
NO.................................................................................................2 (GO TO AL12)
RETIRED ........................................................................................3 (GO TO AL14)
DISABLED/UNABLE TO WORK.........................................................4 (GO TO AL14)

AL12.
Were you on leave or vacation from a job during the past week?

IBLEAVE
YES .................................................................................................1 (GO TO AL13)
NO.................................................................................................2 (GO TO AL14)

AL13.
About how many total hours per week do you usually work for pay or income (counting all jobs)?
[IF HOURS VARY, PROBE FOR AVERAGE PER WEEK.]

PAYHRS |___|___|
WEEKLY HOURS

If AA6 = 2 (did not work in the past 12 months), then
autocode AL14 = 0 and go to AL15. Else, go to AL14.
AL14. In the past 12 months, how many months have you worked for pay or income?

\[IBWORKMO \begin{array}{|c|c|} \hline \text{MONTHS} \hline \end{array}\]

If \(AL11 = 1\) (worked last week) or \(AL12 = 1\) (on leave or vacation), go to AL21. Else if \(AL11 = 3\) (retired), then autocode \(AL17 = 3\) and go to AL21. Else if \(AL11 = 4\) (unable to work), then autocode \(AL17 = 5\) and go to AL21. Else, go to AL15.

AL15. Have you been actively looking for work in the past 4 weeks?

\[JOBLOOK\]

\begin{array}{|c|}
\hline
\text{YES} \hdashline \text{NO} \\
\hline
1 \hspace{1cm} 2 \\
\hline
\end{array}

If any of AL16 a-d = 1 (actively looking for work), go to box after AL17. Else, go to AL17.

AL16. What have you been doing in the past 4 weeks to find work? Have you...

\begin{array}{|c|}
\hline
\text{YES} \hspace{1cm} \text{NO} \\
\hline
\text{a. Checked with an employment agency?} \hspace{1cm} 1 \hspace{1cm} 2 \\
\text{b. Checked with an employer directly or sent a resume?} \hspace{1cm} 1 \hspace{1cm} 2 \\
\text{c. Checked with friends or relatives?} \hspace{1cm} 1 \hspace{1cm} 2 \\
\text{d. Placed or answered job ads?} \hspace{1cm} 1 \hspace{1cm} 2 \\
\hline
\end{array}

If AA6 = 2 (not worked in past 12 months), then go to AL18. Else, go to AL21.
AL18. Have you ever worked at a job for pay or income?

JOBEVER
YES .........................................................................................1 (GO TO AL19)
NO...........................................................................................2 (GO TO AL20)

AL19. In what year did you last work for pay or income?

JOBLSTYY |___|___|___|___|
YEAR

AL20
Do you plan to work at a job for pay or income in the next year?

JOBNXTYR
YES .........................................................................................1
NO...........................................................................................2

Go to HHINTRO.

AL21. For whom (have/did) you (worked/work) (at your longest job during the past 12 months) and
what kind of business or industry (is/was) this?
[EMPLOYER PROBE: Name of the company, business, organization, or other employer.]
[BUSINESS/INDUSTRY PROBE: For example, TV and radio manufacturing, retail shoe store, state
labor department, or farm. ] [IF MORE THAN ONE JOB, COLLECT JOB WHERE R WORKS
MOST HOURS.]
EMPLNAME/R NAME OF COMPANY
INDUSTRY/R TYPE OF INDUSTRY
If AA7 = 1 (self-employed in the past 12 months), go to AL22.
Else, go to AL23.
AL22. [IS THIS RESPONDENT'S OWN BUSINESS?]
* YES .........................................................................................1
NO...........................................................................................2
AL23. What kind of work (are/were) you doing and what (are/were) your most important
activities or
duties?
[JOB PROBE: For example, electrical engineer, stock clerk, typist, or farmer.]
[IMPORTANT DUTY PROBE: For example, typing, keeping account books, filing, selling cars,
operating printing press, or finishing concrete.]
[IF MORE THAN ONE JOB, COLLECT JOB WHERE R WORKS MOST HOURS.]
PROFESSN/R KIND OF WORK
DUTIES/R
DUTIES2/R
IMPORTANT DUTY
IMPORTANT DUTY
If AA9 > 1 (more than 1 employer) and AL11 = 1 or AL12 = 1
(worked last week or on leave or vacation) then go to AL24.
Else go to AL25.

AL24.
CUREMP
AL25.
EARNAMT
Do you currently work for (EMPLOYER/your business)?
YES ..............................................................................1
NO...................................................................................2
(If you had worked for all 12 months this past year,) About how much (would/do) you (have
earned/earn) before taxes and other deductions at (EMPLOYER/your business)?
AMOUNT.............................................................. $..............
EARNUNTEARNUNOS/R
AL26.
CONTREQ
Per
HOUR..............................................................................1
DAY .................................................................................2
WEEK............................................................................3
BI WEEKLY .................................................................4
MONTH ...........................................................................5
YEAR ..............................................................................6
OTHER ............................................................................91
What (is/was) that?
Ask AL26 if AA6 = 1 (worked for pay or income in
the past 12 months).
Does your occupation have legal or professional requirements for continuing training/education?
YES ..............................................................................1
NO...................................................................................2
or Household Characteristics

The following questions are asked only once per household.

HHINTRO.
Now, a few questions about your household.

AM1.
(Do you/Does anyone in your household) work for a child care center?

CNTRWORK
AM2.
(Do you/Do any adults or teenagers in your household) care for or
baby-sit someone else’s child or children on a regular basis, either in
your home or someone else’s home?
Please do not include occasional babysitting.

CHCRWORK
YES ............................................................................................... 1
NO ..................................................................................................... 2

AM3.
Do you...

HOWNHOME
Own your home, ........................................................................ 1

Rent your home, or ....................................................................... 2

Have some other arrangement?....................................................... 3

AM4.
Besides (PHONE NUMBER), do you have other telephone numbers in your household, not
including
cellular telephones?

HOTHNUM
YES .................................................................................................. 1 (GO TO AM6)

NO .................................................................................................... 2 (GO TO AM7)

NOT MY NUMBER ............................................................................. 3 (GO TO AM5)
AM5.
[Interviewer: Ask for and record the telephone number reached. Record reason for reaching different telephone number.]

* Telephone number reached _______________________

Area code change.................................................................1

Other number in household......................................................2

Original number is that of another household and number is being forwarded to this household ...........3

Never heard of original number ................................................4

Other [record explanation in comments] ...............................5

If AM5 = 3, go to CLOSE. Else, for cases where AM4 = 3 (not number dialed), ask AM4 again with new number.

AM6.
How many of these additional telephone numbers are for home use, not including cellular telephones?

HNUMUSE
NUMBER......................................................................................... (GO TO BOX)

If AM6 > 0 (other telephone numbers for home use), ask AM8. Else, go to AM7.

AM7.
Besides this phone number, do you have any telephone numbers in your household that are used for computer or fax lines?

* Yes ............................................................................................ 1 (GO TO AM8)
How many of these additional telephone numbers are used for computer or fax lines?

* 
NUMBER................................................................. .... (GO TO BOX)
If AM8 = 0, go to AM11. Else, ask AM9.

AM9.
Some households have telephone numbers that are used both for talking and for computer or fax lines. (Is the number/Are any of the numbers) used for (a) computer or fax line(s) ever answered for talking?

* 
YES ................................................................. 1 (GO TO BOX)
NO................................................................. 2 (GO TO AM11)
If AM8 = 1 (only 1 other telephone number for computer or fax), autocode AM10 =1, and go to AM11. Else, ask AM10.

AM10. How many computer or fax telephone numbers are also answered for talking?
* NUMBER ................................................................. 
AM11. So that we can group households geographically, may I have your ZIP code?
STFZIP/R ZIP CODE .................................................................
In studies like this, households are sometimes grouped according to income. What was the total income of all persons in your household over the past year, including salaries or other earnings, interest, retirement, and so on for all household members?

Was it....
HINCMRNG $25,000 or less, or ................................................................1 (READ SET 1)
More than $25,000? .................................................................................2 (GO TO AM12OV)

Was it....
HINCM50K
$50,000 or less, or ........................................................................1 (READ SET 2)
More than $50,000? .................................................................................2 (READ SET 3)

Was it....
[SET 1]

HINCOME
$5,000 or less .....................................................................................1
$5,001 to $10,000..................................................................................2
$10,001 to $15,000.................................................................................3
$15,001 to $20,000, or...........................................................................4
$20,001 to $25,000? ................................................................................5

[SET 2]
$25,001 to $30,000..................................................................................6
$30,001 to $35,000..................................................................................7
$35,001 to $40,000..................................................................................8
$40,001 to $45,000, or..........................................................................9
$45,001 to $50,000? .................................................................................10

[SET 3]
$50,001 to $60,000................................................................................11
$60,001 to $75,000................................................................................12
$75,001 to $100,000, or......................................................................13
Over $100,000? ...............................................................14

CLOSE.
Those are all the questions I have about you. Please hold on for a moment while I check to see if there is anyone else I need to ask about, or anyone else I need to speak with.

[IF NOT, THANK RESPONDENT.]
APPENDIX B

CASE PROCESSING SUMMARY
## Appendix B Case Processing Summary

<table>
<thead>
<tr>
<th>Case Processing Summary</th>
<th>N</th>
<th>Marginal Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>filter_$ = 1 (FILTER)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Not Selected</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PARTICIPATED IN NCAE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 NO</td>
<td>2402</td>
<td>57.3%</td>
</tr>
<tr>
<td>1 YES</td>
<td>1787</td>
<td>42.7%</td>
</tr>
<tr>
<td>CURRENTLY MARRIED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 NO</td>
<td>2215</td>
<td>52.9%</td>
</tr>
<tr>
<td>1 YES</td>
<td>1974</td>
<td>47.1%</td>
</tr>
<tr>
<td>HAS WORK STABILITY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 NO</td>
<td>2053</td>
<td>49.0%</td>
</tr>
<tr>
<td>1 YES</td>
<td>2136</td>
<td>51.0%</td>
</tr>
<tr>
<td>HAS CHILD AGED DEPENDENT IN HOUSE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 NO</td>
<td>1220</td>
<td>29.1%</td>
</tr>
<tr>
<td>1 YES</td>
<td>2969</td>
<td>70.9%</td>
</tr>
<tr>
<td>OWN HOME</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 NO</td>
<td>3028</td>
<td>72.3%</td>
</tr>
<tr>
<td>1 YES</td>
<td>1161</td>
<td>27.7%</td>
</tr>
<tr>
<td>SUBORDINATE RESPONSIBILITY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 NO</td>
<td>1174</td>
<td>28.0%</td>
</tr>
<tr>
<td>1 YES</td>
<td>3015</td>
<td>72.0%</td>
</tr>
<tr>
<td>PAST EDUCATION SUCCESS LEVEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>635</td>
<td>15.2%</td>
</tr>
<tr>
<td>1 LESSS THAN HIGH SCHOOL DIPLOMA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>990</td>
<td>23.6%</td>
<td></td>
</tr>
<tr>
<td>2 HIGH SCHOOL DIPLOMA OR ITS EQUIVALENT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1096</td>
<td>26.2%</td>
<td></td>
</tr>
<tr>
<td>SOME COLLEGE/ASSOCIAT'S DEGREE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1468</td>
<td>35.0%</td>
<td></td>
</tr>
<tr>
<td>Valid</td>
<td>4189</td>
<td>100.0%</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4189</td>
<td></td>
</tr>
<tr>
<td>Subpopulation</td>
<td>116²</td>
<td></td>
</tr>
</tbody>
</table>
## Case Processing Summary (Continued)

<table>
<thead>
<tr>
<th>Selected</th>
<th>PARTICIPATED IN NCAE</th>
<th>0 NO</th>
<th>2305</th>
<th>55.9%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 YES</td>
<td>1817</td>
<td>44.1%</td>
<td></td>
</tr>
<tr>
<td>CURRENTLY MARRIED</td>
<td>0 NO</td>
<td>2185</td>
<td>53.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 YES</td>
<td>1937</td>
<td>47.0%</td>
<td></td>
</tr>
<tr>
<td>HAS WORK STABILITY</td>
<td>0 NO</td>
<td>1955</td>
<td>47.4%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 YES</td>
<td>2167</td>
<td>52.6%</td>
<td></td>
</tr>
<tr>
<td>HAS CHILD AGED DEPENDENT IN HOUSE</td>
<td>0 NO</td>
<td>1200</td>
<td>29.1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 YES</td>
<td>2922</td>
<td>70.9%</td>
<td></td>
</tr>
<tr>
<td>OWN HOME</td>
<td>0 NO</td>
<td>2997</td>
<td>72.7%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 YES</td>
<td>1125</td>
<td>27.3%</td>
<td></td>
</tr>
<tr>
<td>SUBORDINATE RESPONSIBILITY</td>
<td>0 NO</td>
<td>1120</td>
<td>27.2%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 YES</td>
<td>3002</td>
<td>72.8%</td>
<td></td>
</tr>
<tr>
<td>PAST EDUCATION SUCCESS LEVEL</td>
<td>0</td>
<td>647</td>
<td>15.7%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 LESS THAN HIGH SCHOOL DIPLOMA</td>
<td>982</td>
<td>23.8%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 HIGH SCHOOL DIPLOMA OR ITS EQUIVALENT</td>
<td>1064</td>
<td>25.8%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SOME COLLEGE/ASSOCIAT’S DEGREE</td>
<td>1429</td>
<td>34.7%</td>
<td></td>
</tr>
<tr>
<td>Valid</td>
<td></td>
<td>4122</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>4122</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subpopulation</td>
<td></td>
<td>119</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. The dependent variable has only one value observed in 16 (13.8%) subpopulations.

b. The dependent variable has only one value observed in 17 (14.3%) subpopulations.
REFERENCES


Brace College Publishers.


