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ABSTRACT

In the first phase of a longitudinal study to gather information on quality-of-life outcomes of adult basic education (ABE) programs in Tennessee, adults entering literacy programs at eight sites in rural and urban Tennessee were interviewed using a baseline questionnaire covering socioeconomic, social, personal, and physical well-being. One year later, 133 literacy program participants were interviewed at eight ABE sites across Tennessee. The interviewees ranged in age from 17 to 72 with an average age of 34 years. More than half were women, more than half were black, and only a few had graduated from high school. Only one-third of the participants were employed when interviewed, and nearly all participants who were employed were in low- and semiskilled jobs paying approximately $6 per hour. Participants' self-esteem levels ranged from low to high and were connected with aspects of their lives other than low literacy (i.e., employment, marriage/gender, and personal and community satisfaction). Most participants with children seemed fairly involved in their children's schooling. For a substantial minority of participants, health problems were a major barrier to pursuing goals, including persistence in ABE. (Appended are the following: 26-item bibliography, 10 tables summarizing demographic and outcomes data, survey instrument, and glossary.) (MN)

LONGITUDINAL STUDY OF ADULT LITERACY PARTICIPANTS IN TENNESSEE

YEAR ONE REPORT

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EXECUTIVE SUMMARY

The study

This report describes a group of literacy program participants who were interviewed in the first phase of the Longitudinal Study of Adult Literacy Participants in Tennessee. This study will track participants in literacy programs over a three to five year period, with a particular focus on quality of life outcomes of literacy education. The study explores the question "what difference does literacy education make in the lives of individuals?"

In the first phase of this study, adults who entered literacy programs at eight sites across the state of Tennessee were interviewed using a baseline questionnaire. The questions cover four major areas of quality of life: socio-economic well-being, social well-being, personal well-being and physical well-being. The study will track changes in these aspects of quality of life. This first report does not describe changes, but is rather a snapshot of a group of individuals as they were when the first entered the literacy program, and will provide a baseline from which to measure changes over time.

The longitudinal study is important because we know too little of the outcomes and impacts of adult education in general, and adult literacy education in particular. Although there have been some recent studies of GED graduates examining the outcomes for them of attaining that credential, there have been few studies examining outcomes of smaller literacy gains. Tennessee is an appropriate state in which to explore these questions, since it has a high proportion of adults who did not graduate from high school.

In the first year of the Longitudinal Study, 133 participants were interviewed at eight ABE Level 1 programs. The research sites were chosen to be representative of both rural and urban areas in each of the three main regions of the state: east, middle and west. Participants were interviewed in person by an ABE staff person trained by Center for Literacy Studies staff. Although efforts were made to make the sample as representative as possible of ABE-1 participants throughout the state, there are some limitations in the data. The sample size is small (less than one percent of all ABE-1 participants in the state). There are some potential biases in the sampling, although the survey sample is similar to demographic data on all ABE-1 participants except for an over-representation of black respondents. These limitations should be borne in mind as findings are reviewed.

The participants

The ABE-1 students interviewed in this study ranged in age from 17 to 72, with an average age of 34 years. More than half were women, and more than half were black. Less than half were married at the time of interview, but more than half had children under 18. Only a few had graduated high school (and all were reading below 6th grade level according to the ABLE test). They had left school for a variety of reasons, including not doing well in school

The main reason people gave for enrolling in the literacy program was to further their education. Only 5 percent said their hope was to get a better job or more money (although this may have been a secondary aim for others). Over a third had taken part in some form of education or training since leaving school, including vocational training and other basic skills courses.

Although their literacy skills as measured by the ABLE test are quite low, many participants noted a range of everyday literacy activities. Seventy nine percent said they regularly or sometimes read magazines, newspapers or books. Seventy four percent said they pay bills themselves. Sixty nine percent of those who have children said they read to them regularly or sometimes. Work-related literacy demands are also quite high: fifty nine percent of those who work said they need to write and to work with numbers on the job, and 68 percent of the employed said they need to read on the job. Nevertheless, their literacy difficulties are indicated by the two thirds who said they regularly or sometimes need to memorize things because they cannot read well enough.

Employment

Only a third of the participants were employed at the time of interview, somewhat fewer than the 41 percent of all levels of ABE participants across the state. Almost all of these were in low-skilled and semi-skilled jobs. Average wages are low, around $6.00 an hour, but consistent with most blue collar and service sector jobs in Tennessee. Participants who were unemployed fall into two broad groups: those who are looking for work and those who are not (including the retired, disabled, homemakers and others). Participants who are unemployed and looking for work are younger than the others, and less likely to be married. Sixty percent of them identified their lack of education and training as a reason for their inability to find a job, while 50 percent noted the scarcity of jobs.

Whether employed or not, incomes for this group of ABE-1 participants are low: 43 percent of total household incomes are less than $5,000 a year; only 10 percent are over $30,000 a year. While 59 percent of employed participants have total household incomes over $15,000 a year, the unemployed participants cluster at the other end of the range: 69 percent of those unemployed and looking for work, and 59 percent of the unemployed, not looking have total household incomes below $5,000 a year.

While as one would expect, unemployed participants form a majority of those receiving various forms of public assistance, nevertheless 20 percent of the employed participants receive food stamps and 46 percent have other transfer payments coming into their households.

Employment has far-reaching impacts on other aspects of participants' lives. In particular, employment is linked with higher life satisfaction and higher self esteem. Employed participants are more likely to feel satisfied with their homes and communities. Employed participants are more likely to feel better about their hobbies, family life, friendships, health, finances and life in general.

There is room for improvement in employment patterns of this group of participants. Substantial numbers of those who are unemployed and looking for a job feel that improving their skills will help them, and this is an issue the Longitudinal Study will track over time. Among those who already have jobs, skills are low and so are wages, and we can track over time whether increased literacy has any impact on these. Women and blacks are especially likely to be unemployed, so any impacts may have disproportionate effects on these two groups.

Perhaps most importantly, we begin to explore the inter-connections of employment with other aspects of people's lives. Employment changes may have the potential for far-reaching effects on such matters as self esteem and life satisfaction.

Self esteem

Practitioners in literacy education commonly believe that their students enter the programs with low self esteem, and that one of the primary benefits of literacy education is a boost in self esteem. Earlier studies give mixed results: some indicate ABE students do have lower self esteem than national norms, while others suggest they do not.

Self esteem of the participants we interviewed on entry to the literacy program was assessed with the Rosenberg Self Esteem Assessment, a measure of global self esteem. The primary purpose for the self esteem measure was to assess any changes over time. However, as data analysis was conducted it became clear that self esteem is a complex construct which is inter-twined with other aspects of people's lives. In particular, we found that self esteem is correlated with employment -- people who are employed have higher self esteem than the unemployed. Among the employed, self esteem is associated with higher job satisfaction, but not with pay levels. Physical health is also inter-connected with self esteem -- people who have health problems have lower self esteem than those in good health.

Gender and marriage interact in their relationship with self esteem. Although unmarried men and unmarried women have similar self esteem scores, married men have much higher scores and married women have much lower scores. Those who reported better relationships with their spouses also have higher self esteem scores.

Life satisfaction is also connected with self esteem. Personal satisfaction (with family, friends, marriages, health, finances) is the major factor associated with self esteem -- those who are more satisfied have higher self esteem scores. Community satisfaction (with home, neighborhood, government and schools) is also associated with self esteem -- those who are more satisfied have higher self esteem scores. Political activism, in particular talking politics with family and friends is also associated with higher self esteem.

Nevertheless, these life satisfaction measures are not the same as self esteem, and between them account for only part of the variance in self esteem. Global self esteem is a complex construct which is not fully explored in this part of the study. As we track individuals over time we will be alert not only to changes in self esteem, but also to how these changes are mediated by the individuals' starting points and by other changes in their lives.

Marriage and family

Among our participants, more of the married people were white and male, and more of the unmarried were black and female. As we noted above, marriage is a factor that impacts self esteem in different ways depending on whether one is male or female: while unmarried men and women do not differ in their self esteem scores, married men have much higher self esteem scores and married women have much lower self esteem.

More than half of our participants have children under 18, and 60 percent have at least one child living in their home. We asked about their involvement in their children's schooling, and found high expectations for their children's education and quite high involvement in many aspects of their schooling. All the people we interviewed who had children under 18 expected their children to graduate from high school -- probably unrealistically given the drop-out rates from Tennessee schools. These parents are also quite positive about their children' attitudes toward school.

Many of the parents are quite active in supporting their children's schooling. Eighty percent report talking about school often or sometimes with their children, and 65 percent reported helping with schoolwork often or sometimes. The proportion is greater for those who have younger children, and mothers are more involved with their children's schooling than fathers. Our participants are similar to a national sample of parents interviewed for a PTA-Newsweek study in their active involvement with their children's schooling. Skills for our participants may be limited, however. Only 31 percent report regularly reading to their children, and 31 percent say they never read to their children.

Inter-generational literacy

Our study examined patterns of graduation from high school across generations as a way to explore the concept of "an inter-generational cycle of illiteracy." This concept is widely accepted in the field, and is the basis for recent years' proliferation of family literacy programs. According to the prevailing wisdom, parents who have low literacy skills are not able to help their children be successful in school, thereby having children who drop out, and so on generation after generation.

Our findings at this stage can only be suggestive and not definitive, but they do not show a strong inter-generational cycle. When we look only at ABE participants and their parents, such a cycle may appear, because few of the parents of the people we interviewed had graduated from high school. However, it is common for people in the older generation not to have graduated, and the apparent cycle disappears when one looks at the siblings of our participants. These siblings graduated from high school at about the same rate as the overall Tennessee graduation rate for adults.

Parental schooling does seem to have an affect on children's graduation. Siblings on the whole are most likely to have graduated if both parents did so, and least likely to have graduated when neither parent graduated. However, the parents' graduation rates cannot explain the very low graduation rates of participants in our study, in which they differ from their siblings. We suspect that parents' schooling is only one factor among others, including the community context (value placed on education) and individual factors (learning disabilities, economic demands, teen pregnancy). We will explore further in our research how these factors may interact.

Health

Although outcomes studies in adult basic education have not looked at health, our study finds health to be a potentially significant factor for a substantial minority of participants. More than a quarter of the participants told us they had major physical or health problems at the time of interview, and 14 percent thought their health might be a potential barrier to persistence in the program.

Health conditions have other effects on people's lives: poor health is associated with lower self esteem, although not with lower life satisfaction.

There are also concerns about people's ability to care for or prevent serious health problems: 22 percent of the people we interviewed had no health insurance coverage at all, either from private health insurance or Medicaid/Medicare. Although literacy may not directly impact on health, it may have an impact mediated through getting a job or a better job which provides health benefits.

Conclusions

Most of the participants in our study are either the working or non-working poor. Their incomes are low, and dependence on public assistance is high. Since employment appears to be a factor associated with other aspects of people's lives (including self esteem and life satisfaction), if gaining literacy skills can affect employment it might have far-reaching outcomes for participants. However, that goal has to be viewed cautiously in the current economic context. Participants themselves are not sure whether to blame their unemployment on their own lack of skills or on the lack of available jobs. We must also remind ourselves that few participants identified getting a job as their main reason for enrolling in the literacy program.

The participants we interviewed do not fit two stereotypes about people with low literacy skills: that they have low self esteem and that they are poor parents. Our participants had a range of self esteem scores from low to high, and self esteem seems to be closely connected with other aspects in their lives than low literacy -- employment, marriage/gender, personal and community satisfaction.

The participants who have children in th homes seem fairly involved in their schooling, especially the younger children. They value education, expect their children to graduate high school, talk about school and visit their children's teachers. Even though the parents' own skills are quite limited, many help their children with schoolwork, especially the mothers and those who have younger children.

Our study also does not produce evidence for the theory that there is a "cycle of illiteracy" which passes from generation to generation. Although most of the parents of the people we interviewed had not graduated from high school, their siblings had graduated at about the same rates as other Tennesseeans. Parental education alone cannot explain the differences between these siblings and the participants in our study.

Health is an area which has not been paid enough attention by adult basic educators. For a substantial minority of participants health problems are a barrier to doing the things they would like, and may be a barrier to their persistence in the ABE program. The ability of this group to obtain good health care is also in doubt. Some do not have health care coverage from any source, many of them parents of children under 18. For this group even a minor illness may have major consequences, and a major illness or accident can be catastrophic.

This study suggests above all the complexity of people's lives, and the interactions of one aspect with another. As we track people over time, and explore the changes going on in their lives, we will be alert to the potential for change in one area to impact other areas, both positively and negatively. The participants in our study are hopeful that they can further their education and make a difference for themselves. We will be there to tell the story as it happens.

1. INTRODUCTION

In 1990, the Center for Literacy Studies at The University of Tennessee was asked by the Executive Director of Adult and Continuing Education for the state of Tennessee to design a study on long-term impacts of literacy education. The state's interest was not at this point to examine reading gains -- programs already measure such short-terms impacts. Rather the central question was, "What difference does literacy education make in the lives of individuals?" and by extension, in our communities and our state.

As we began to explore this issue through literature reviews and discussions with other researchers engaged in related studies, two things became clear. First, there has been remarkably little sound research in this area. As the Literature Review section shows, not many studies have been conducted on the broader outcomes of involvement in literacy and adult basic education, beyond gains in reading or other basic skills per se. Secondly, the majority of these studies have focused on people at the top of adult basic education - GED candidates (and usually the successful candidates at that). We know very little about what impacts there may be for people who are beginning or low-level readers, "literacy" students.

Yet this lack of research has not deterred most of us involved in literacy and adult basic education from making assumptions about the effects of what we are doing. Government funding is predicated on the belief that improved basic skills have broader impacts. In 1974, the National Advisory Council on Adult Education said:

> *There is acceptance of the linkage between the level of school attainment and a person's earning power, his ability to provide support, his motivation to self-improvement, his capability to function as a good citizen, and his influence upon his children.* (p.v)

As teachers and administrators in literacy programs we believe that learning to read is a powerful tool that has far-reaching effects on people's lives. We may believe that it will help them get a job (or a better job) and get off welfare. We may believe that learning to read will enable parents to help their children be successful in school. We may believe that it will help people vote and be more active as citizens in many community organizations -- churches, PTAs, neighborhood organizations. And most strongly of all, we believe that improving basic skills helps people feel better about themselves.

Only a few warning notes are sounded. Hanna Fingeret's research on social networks of low-level readers, for example, suggests that changing one's ability to read may have profound and disruptive impacts on social relationships. But on the whole, our expectations are high.

It is perhaps remarkable that we should assume so much, on the basis of so little systematic evidence. In 1984, Darkenwald and Valentine made a comment that still holds true, although at the GED level the situation has been remedied by some recent sound research (Beder, 1992):

> *Very few well-designed, large-scale studies have been conducted to determine the impact of participation in any form of adult education. The need for impact research on adult basic education (ABE) is especially acute, for the individual and societal needs addressed by these programs are urgent.* (Darkenwald and Valentine, 1984, p.1)

The challenge put to us by the Tennessee Director of Adult Education was clear. As we began to design a way to answer his questions, it also became clear why so little research has been conducted in this area: it is hard to do. To answer the question "what difference does literacy education make?" we need a longitudinal study which tracks people over sufficient lengths of time to see long-term as well as short-term changes. Most existing "outcomes" studies track individuals over quite short time periods, except for Beder's 1992 Iowa study of GED graduates which looked at ten year impacts.

It was clear to us that we need to use quantitative research methods and quite sophisticated statistical analyses of change in order to see patterns among individual responses. But we also need to understand what the data mean to participants, to understand the context in which they live, and their own perspectives on what is happening in their lives. So we need a qualitative component of the study to explore context and meanings.

As finally proposed and accepted, this research design is multi-faceted, incorporating both quantitative and qualitative components, and predicated on at least a five year tracking of individuals. As the study proceeds, we hope to describe individual, family and social impacts and begin to unravel the complexity of factors affecting individual change.

Tennessee is an appropriate state in which to conduct such a study, since it is in the heart of the area of the country with the lowest literacy levels. According to the 1990 Census, 42 percent of adult Tennesseans did not graduate from high school. Some of those who did graduate are now in literacy programs because of very low reading levels. Tennessee's three major regions are also characteristic of larger geographic areas. Its eastern region is mountainous and similar in many ways to other Appalachian areas. Its western region, with a much higher African American population, is more like Mississippi. The middle of the state is a mainly rural and farming area, with the growing metropolitan area of Nashville at its center. We believe that the Tennessee study will generate insights that have broader application in this country.

THE STUDY

The goal of the proposed five year research project is to assess the long-term impacts of participation in literacy programs on the lives of a group of adults in Tennessee with low literacy skills. The study has three main objectives:

1. To expand our understanding of how participation in literacy programs changes adults' quality of life, with a focus on four main areas:

   - socio-economic well-being (jobs, income, survival)
   - social well-being (family and community life)
   - personal well-being (self esteem, life satisfaction)
   - physical well-being (health and health-care)

2. To examine the influence of community and programmatic contexts of the individuals in the study, within which they change skills, perceptions and attitudes, and to explore the meaning for them of these changes.

3. To provide findings for policy makers and program developers to inform development of future adult basic skills programs.

As we developed a research design to meet these objectives, we were conscious of the complexity of the task that lay before us. As suggested by Strauss (1987):

> *Researchers need to be alive not only to the constraints and challenges of research settings and research aims, but to the nature of their data. They must also be alert to the temporal aspects or phasing of their research, and the open-ended character of the "best research" in any discipline, the immense significance of their own experiences as researchers, and the local contexts in which the research is conducted. (p. 7-8)*

We planned to look through two sets of lenses. Through one we would gather quantifiable data about the lives of participants in the study, over time, and to examine changes. Through the other we would examine contexts and meanings of these changes for participants. The research design, then, has a descriptive "indicators and outcomes" study, with both longitudinal tracking and time series cohorts, and also a series of qualitative case studies of individuals, communities and programs.

1. Indicators and Outcomes Study

Because of the inherent difficulty of measuring change in adults, the study is gathering quantitative data in two ways: "snapshots" of adult literacy participants each year for a series of years, and a "motion picture" of the same individuals over a period of years.

The time series design gives us a series of snapshots of particular groups of individuals at particular times. In our study we are selecting a series of three "cohorts" in each of the first three years of the study. Each cohort consists of individuals who entered adult literacy (Level One) programs at our research sites across the state of Tennessee during a particular school year. This report focuses on the first cohort, interviewed when they entered literacy programs during 1991-92. A second cohort is being selected and interviewed during the

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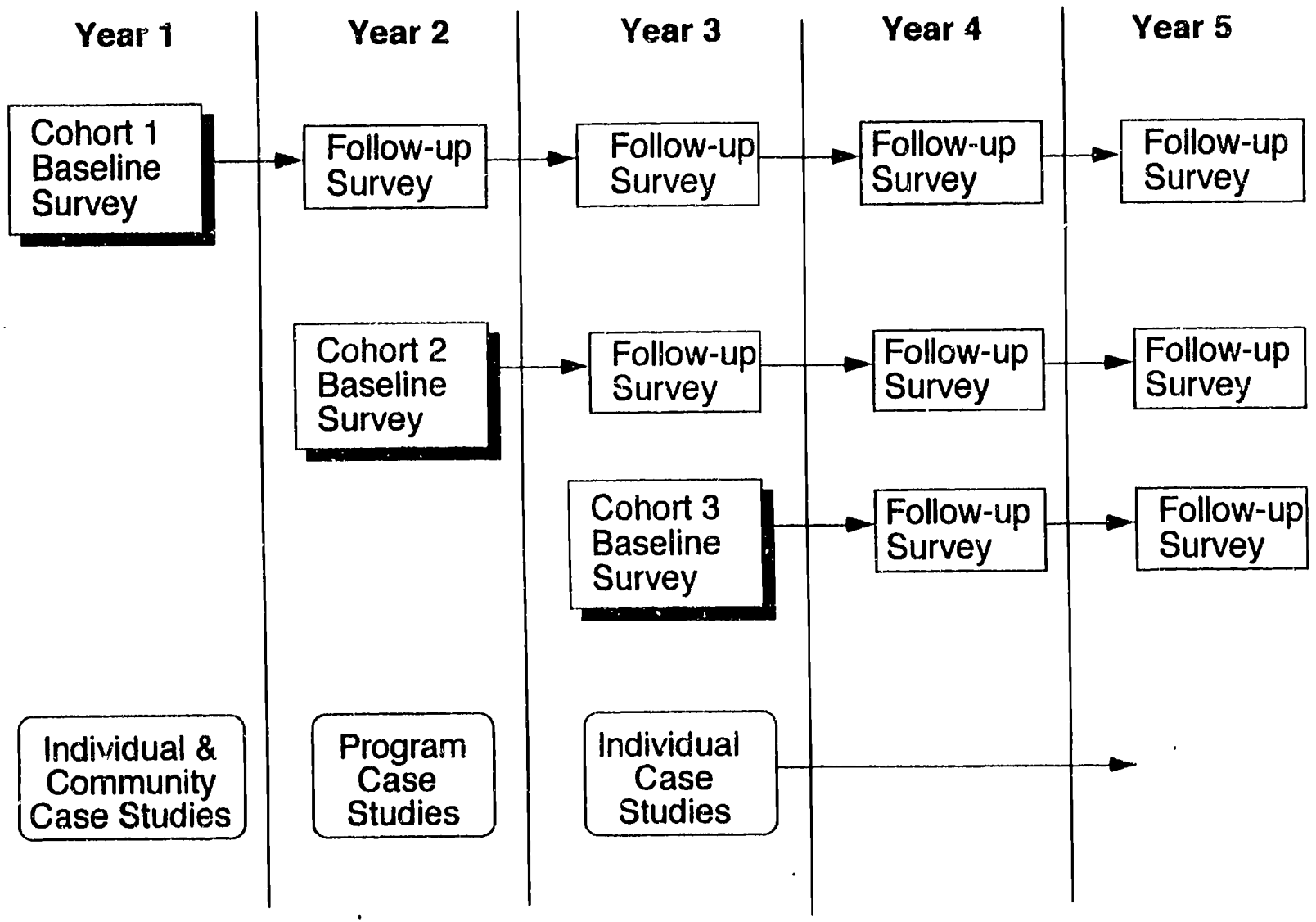


current 1992-93 program year. A third cohort is planned to be selected next year (1993-94). The time series allows us to look at any changes that might occur in the population (perhaps over time different kinds of people come to literacy programs) and in the broader context (perhaps changes in employment/unemployment, or in the job market are reflected in changes in the cohorts).

The longitudinal series design allows us to create a kind of motion picture (actually a series of still shots which depict movement) of each individual in the study. The longitudinal design is the only effective way of studying change over time. It allows us to compare changes taking place among individuals coming from different contexts and different starting points. It allows us to correlate changes with other factors in their lives. Follow-up interviews will take place with each cohort at yearly intervals for at least 3-5 years.

One of the strengths of our study is that we are tracking individuals over time, rather than asking them at a later date to think back to how they were at some point in the past. We expect to get a more accurate and complete description of any changes through this method.

To summarize this component of the study: in each of Years One, Two and Three, baseline data on demographics and key aspects of quality of life are being collected for new program entrants at each of the selected research sites across the state. Beginning in Year Two, the first round of follow-up "outcomes" interviews is being conducted with Cohort One, and at yearly intervals, follow-up interviews will be conducted with each member of each cohort. The plan is to follow individuals for a period of three-to-five years at a minimum, and longer if funding permits. The time schedule for this series of baseline and follow up interviews is depicted in Chart 1. Additional information on site selection, interviewing and data analysis is included in the Methodology Section, and a copy of the baseline questionnaire is in Appendix 3.

2. Qualitative components: case studies

The numbers tell us something, but on their own our ability to interpret their meaning is limited. In order to understand the patterns which the quantitative data suggest, we need a way to explore the contexts of these patterns and their meanings for participants. The qualitative components of the study were planned to provide these insights through case studies of communities, programs and individuals.

Community case studies: conducted in two of the research sites in 1992, these "place" the participants in the study in their community context, so that we could better understand and interpret changes as they happen. Broad areas of inquiry included:

- the local economy -- jobs, qualifications, modes of survival
- community -- organizations like churches, neighborhood organizations, PTAs, and their role and membership1

- education -- schools and other institutions, community involvement, the "value" placed on education in the community
- agencies and support mechanisms -- programs available to help those in need, and how they are used
- political life -- participation, political activity.

Program case studies: originally planned for Year Two, but postponed until Year Three, these are designed to explore the literacy programs themselves, within which individual study participants gain skills and make changes in their lives. Variations in program context may be important for several areas of our study. Community involvement is one example: some ABE programs are very closely involved with other community institutions and organizations, others operate in a way separate and independent from other community groups. These differences may make a difference when we look at impacts of program participation on community involvement.

Broad areas of enquiry for the program case studies will include:

- program delivery -- one-on-one tutoring, small groups, classes
- staffing -- use of professional teachers, para-professionals, volunteers
- location of services -- centralized, dispersed, sites used
- materials -- commercial publications, locally relevant content
- inter-connections with other local organizations

The program case studies will include interviews with program staff, volunteers and students, and observation of teaching.

Individual case studies: conducted in Year Three and beyond with individuals in the study these case studies will give a more in-depth look at the changes in the lives of participants and their perceptions of the meaning of these changes. In the first year of the study, the Center for Literacy Studies conducted a series of six in-depth profiles of individuals with low literacy skills for the Office of Technology Assessment, U.S. Congress. Although not conducted with individuals taking part in our longitudinal study, these profiles provide insights which make an important contribution to the study. Additional individual profiles will be conducted in Year Three, through in-depth interviews with selected participants in the longitudinal study, collecting life histories and focusing on changes within the major domains of work, family, community, self concept and physical health.

YEAR ONE REPORT

This report is not about change: it describes the individuals who are in Cohort One of the longitudinal study as they were when they entered the literacy programs in 1991-92. These individuals are now being interviewed with the first follow-up interview. The data for this report are baseline data, which provide a more complete description of individuals who take part in Tennessee literacy programs than ever before. In addition, the baseline data enable

us to explore the interactions between various parts of people's lives, and so prepares the way for our analysis of changes. For example, when we look at self esteem we explore the other aspects of people's lives which seem to impact on self esteem -- we find gender, marriage, employment are key factors.

Staffing

This longitudinal study has already seen some staffing changes, and more will doubtless take place over the period of the study. The Principal Investigator from the beginning has been Dr. Juliet Merrifield, Director of the Center for Literacy Studies. Merrifield has an academic background in social anthropology and political science, more than twenty years experience in a variety of research, and seventeen years experience in adult education. As Director of the Center for Literacy Studies since its beginning in 1988, she has overseen its growth and development of research and practice-related activities including:

- Development of the *Community in the Classroom* project, with ten Appalachian community-based groups, designed to link literacy with community development.
- A study for the U.S. Congress, Office of Technology Assessment, of everyday uses of literacy and technology by adults with low literacy skills.
- A study of job training programs for women, designed in collaboration with a group of displaced women textile workers, which examined barriers to training and basic education for women, and impacts of both on subsequent employment.
- Workshops for literacy and ABE practitioners in several states, on themes including whole language, working with adults with learning disabilities and group approaches to literacy education.
- Technical assistance and training for family literacy, community literacy and workplace literacy programs.

Dr. Michael K. Smith was involved from the beginning of the study as an advisor, and has taken primary responsibility for the analysis of the Year One data which is reported on here. Director of the Institute for Educational Technologies at The University of Tennessee, Smith is an experienced researcher in both quantitative and qualitative analysis, with a particular interest in assessment.

Graduate research assistants working on the study have included Lachelle Nc ris, who was involved in the design and planning phase and in Year One, Thomas Shriver, who took primary responsibility for coordination of the study in Year Two, and Kathryn Rea, who worked with Dr. Smith on data analysis during Year Two.

Others who have advised and helped guide the study along the way include at UTK Dr. Carol Kasworm, Professor of Adult Education and Associate Dean for Educational Research and Service; Dr. Ralph Brockett, Professor of Adult Education; Dr. Michael Benson, Professor of Sociology; Dr. Donald Hastings, demographer and Professor of Sociology; Dr. William Lyons, Professor of Political Science and Director of the Social Science Research Institute; Janet McCullough, doctoral candidate in adult education; Steve Heath, graduate student in adult education and ABE supervisor; Michael O'Neil computer consultant. Dr.

Hal Beder at Rutgers University advised in the design phase, and kindly commented on the draft of this report. Dr. Ken McCullough, Executive Director of Adult and Community Education is someone without whom (literally) the study would never have been started, and who has been a supportive guide along the way. Laura Gwin and Melissa Crisp helped with data entry and Linda Fleming with report preparation.

In the research sites, our warm appreciation goes to the program administrators who agreed to take part in the study, and to the interviewers who conducted the interviews. The names of these individuals at each site are as follows: Fayette County -- Everleaner Brown, Marie Herron, Ellen Jones, Lillie Shelton; Haywood County -- Vicki Evans, Susan Scott; Knox County -- June Bolton, Jane Cody, Denise Garner, Iona McFarland, Dorris Seeley; McMinn County -- Becky Dalton, James Dodson, Steve Heath, Winona Pless, Dorothy Radeke, Debra Thurman; Putnam County -- Martha Gentry, Hope Lancaster; Rhea County -- Margaret Bott, Marbra Deveau, Betty Lee Isler, Beverly Joyce, Leota Reed, Brenda Smith; Shelby County -- Pat Coffee, Joe Eoff, Ernest Johnson, Chandrika Reed, Helen Reed; and Tipton County -- Martina Cole, Linda Dawson, Gail Gainer, and Patti Tadilock. Most of all, we have to thank 133 adults who enrolled in adult literacy programs and agreed to spend a great deal of time answering questions about their lives. We thank them for helping the rest of us to understand them better.

2. METHODOLOGY

The baseline survey data used in this analysis were collected in Year One of a five year longitudinal study. The project is designed to assess in depth the long-term impacts of participation in literacy programs. This section of the report examines the survey sample, the survey instrument, the data collection procedures, and the limitations of the study.

The larger study combines two research designs, described in the Introduction: time series and longitudinal. In each of Years One, Two, and Three baseline data is being collected on new program entrants at each of the selected sites. Subsequently, members of each cohort are being interviewed annually for three to five years to assess quality of life changes, and outcomes of their ABE participation.

SAMPLING

Site selection

Eight ABE Level-1 programs from across the state of Tennessee were selected. Site selection was conducted with the aid of a demographer from the University of Tennessee and with input from the Tennessee Division of Adult and Community Education, and the Tennessee Department of Education. A paired comparison method was used to select the sites (Lieberson and Silverman, 1965): this method enables a sample of counties to be drawn which is as representative as possible of other counties in their area.

Using this method, we selected six demographic variables as being most relevant for our study (percent non-white, percent families living in poverty, percent population change, percent adult high school graduates, percent urban, and median years of education completed). Data for each of the 95 Tennessee counties were entered into a SAS database. The counties were coded and sorted by the three major regions of the state, (east, middle, west), and within each region, by rural and urban (yielding six sets of counties), and means for each of the variables for both urban and rural counties in each region were calculated.

Counties falling within a half standard deviation of the mean within their set (rural or urban, within each region) were identified, and counties with the most variables falling within a half standard deviation of the mean were selected as possible sites for the study.

In the next step of site selection, the numbers of ABE Level-1 students at each potential site were collected from state reports. We wanted to have a potential sample of at least 240 Level-1 students in each of five areas: East Tennessee urban, East Tennessee rural, Middle Tennessee rural, West Tennessee urban and West Tennessee rural. In fact, only four of the 32 counties which were listed as potential sites had at least this number of Level-1 students during the previous year, almost all of them urban counties. Since most of the rural ABE programs in the state are fairly small, we looked for combinations of rural counties that had similar demographic characteristics to provide the minimum sample size. Following this procedure we identified eight research sites:

EAST TENNESSEE:	
Knox County	urban
McMinn County	rural
Rhea County	rural
MIDDLE TENNESSEE:	
Putnam County	rural (part urban)
WEST TENNESSEE:	
Shelby County (Memphis)	urban
Fayette County	rural
Haywood County	rural
Tipton County	rural

Participant selection

In order to qualify for the study, students in these ABE-1 programs had to be new entrants (that is, not enrolled in the program in the previous year). They also had to score at or below 5.9 on the reading components of the ABLE test, mandated for use in all ABE programs in Tennessee. The State of Tennessee classifies students as Level One if they score at or below 5.9 on either the reading or the math components of ABLE, but it was felt that for the purposes of this study reading level was the more important qualification. We recognize, however, the flawed nature of reading tests. This was brought home by one participant in our study who passed his GED test a few months after testing at 2.8 on the ABLE.

Personal interviews were conducted by interviewers who were trained by Center for Literacy Studies personnel. Telephone interviews were deemed inappropriate for this constituency, as many ABE students do not have phones. Mail surveys would likewise be inappropriate for people reading at low levels. At most sites, the ABE staff who normally did student intake conducted the interviews. In a few cases where limited staffing made this difficult, another interviewer was trained.

A total of 133 interviews were completed in the eight sites participating in the study. The breakdown of respondents by site is listed in the Findings section. This sample size fell short of what was expected for the first baseline interviews. We have identified several pctential reasons for the smaller sample size. Several of the sites reported increases in the number of ABE Level-2 and ASE new entrants, but reported few new ABE Level-1 entrants in that year. Since only those scoring at 5.9 or below in reading qualified for the study, not all of the ABE level-1 students qualified for the study, our initial projections (based on ABE-1 totals) were probably over-optimistic. We also excluded some students who were in correctional facilities, nursing homes and other students aged over 75, and students who are mentally retarded.

Several sites waited to conduct the interview when students came to their first class, rather than at enrollment when there was a substantial amount of other paperwork to complete. In these cases, students who enrolled but were "no shows" for classes were not interviewed. Some of the programs reported refusals, although these do not appear to have been a major

problem in most sites (the largest number of reported refusals at a site was five). Finally, nearly all of the programs reported staffing shortages, making it difficult to find time to complete the interviews. We were not able to detect consistent patterns of bias in the selection of students for interview in these cases except for two: one site interviewed only students attending the daytime classes (thus under-representing people who are employed). Another site did not interview any students who enrolled via the Department of Human Services office (thus under-representing students on welfare). The two biases may well cancel out in the final numbers.

INSTRUMENTATION

A copy of the baseline questionnaire is attached in **Appendix 3**. The sixteen page questionnaire was designed to take 20-30 minutes to administer, although some interviews took as long as an hour. In the design of the questionnaire, we consulted the literature on participation in ABE and related outcomes studies. Three focus groups were conducted with students active in ABE-1 programs. The focus groups provided information about the actual experiences of program participants. The draft questionnaire was reviewed by experienced researchers in adult education, political science, sociology and psychology, and by several ABE practitioners. The questionnaire was then piloted with ABE participants in five programs in different areas of the state and modified for clarity and ease of administration.

Questions on the survey instrument addressed the four major areas of quality of life in the research objectives:

- Socio-Economic Well-Being
- Social Well-Being
- Personal Well-Being
- Physical Well-Being

To examine socio-economic well-being, respondents were asked about their employment and sources of income, as well as other activities used to make ends meet. Social well-being was examined through questions relating to family and community involvement. The personal well-being of respondents was examined with questions pertaining to self-esteem and lifestyle. The Rosenberg Self-Esteem Scale was used to examine self-esteem, selected in part because it has been widely used with different populations and in part because it is one of the shorter self esteem instruments. To examine physical well-being, students were asked about their health and access to health care. In addition to these major areas, respondents were asked general demographic questions.

SURVEY ADMINISTRATION

At each site, interviewers were trained by CLS staff to administer the questionnaires to new students. Interviewers consisted of ABE coordinators, supervisors, teachers, administrative assistants, and VISTA volunteers. Interviewers were instructed to interview as many of the new students who qualified as possible.

The interviews lasted from 30 minutes to an hour, with an average around 45 minutes. The interview had to be completed within the new students' first 30 days in the program. The 30 day cut off was established in order to interview all respondents before they began to be affected by the program. At the end of each month, interviewers mailed their completed questionnaires to the Center for Literacy Studies. The questionnaires were then checked, processed, coded, and entered into the computer database. Quality control checks were conducted by telephone by Center for Literacy Studies staff on ten percent of completed questionnaires.

DATA ANALYSIS

Data analysis for this study consisted of several stages. In the first phase we obtained frequency distributions which allowed us to look at characteristics of our sample and profile subgroups (e.g., employed, unemployed respondents) within the sample. Frequency tables of responses to most of the items on the questionnaire are presented in Appendix B.

In the second phase we selected the major areas of inquiry suggested by the research objectives. The specific areas for investigation were: socio-economic, personal, social, and physical well-being. Within each of these areas, we conducted analyses of the data looking at subgroup differences (e.g., married versus unmarried respondents), and correlations or interactions between or among different variables. Results of these analyses are presented in the "Findings" sections of the report.

Procedures used for data analysis include correlations, cross-tabulations and chi-square tests, t-tests, analysis of variance, and regression analysis. Readers wanting a lay-person's guide to these statistical techniques are referred to the glossary in **Appendix 4** at the end of the report for a brief description and explanation of each procedure.

LIMITATIONS

There are a number of limitations with this research which should be taken into account when examining the findings. The sample size of 133 is small. This number is sufficient for current analysis, but may be problematic as people prove difficult to track for followup interviews in subsequent years. In addition, we were not able to obtain a random sample. The sites participating in the study were chosen systematically; however, we had much less control over the actual respondents chosen from each site. We planned for each site to interview all new students qualifying for the study, but this was not possible. Furthermore, non-response rates were not documented carefully, because the programs collect data only on total ABE-1 participants, not the smaller sub-set who would have been eligible for this study.

It should also be noted that there was no comparison group used in this study. It was beyond our means to obtain a representative sample of low literate adults qualifying as ABE level-1 students but not participating in ABE programs. Finally, the research is based on self-reported data. Like any self-reported study, the analysis is based on the assumption that the

respondents answered truthfully. This concern may be compounded given the personal subject matter of some of the questions, and the fact that respondents had to report their answers to an interviewer rather than write them. These limitations should be borne in mind as the findings are reviewed.

3. LITERATURE REVIEW

INTRODUCTION

With some outstanding exceptions, much of the research on outcomes of adult basic education has suffered from a narrow focus on outcomes, flawed methodology and/or very short time periods studied. All but one of the studies were not true longitudinal studies. A longitudinal study is one which follows people over time, asking questions at intervals: these studies asked people at a point of time to look back at an earlier point in their lives and compare the differences. Only one study had a control group, and its methodology was flawed. Only three studies followed respondents for a time frame of more than two years. While all the studies looked at employment and income-related outcomes, and most looked at changes in feelings about self, few explored social impacts, in terms of family and community; none looked at health.

In this section we briefly review outcomes studies in adult basic education in reverse chronological order, and then synthesize their major findings.

OUTCOMES STUDIES

Beder, H. & Iowa Department of Education. (1992). *What has happened to Iowa's GED graduates? A two-, five-, and ten-year follow-up study*. Des Moines: Iowa Department of Education.

The primary objective of Beder's Iowa study was to determine the effects of earning a GED in the short-term (two years), intermediate (five years), and long-term (ten years). The study emphasized both economic and non-economic factors and represents one of the most comprehensive studies of ABE participants to date.

In a mail survey, a random sample of GED graduates from 1980, 1985 and 1988 were asked to compare their lives in 1990 to their lives before they passed the GED test. 1,597 individuals completed the six page, forty-item survey instrument, divided into several sections, including employment-related, educational history, perceived results of earning a GED diploma, personal background, and satisfaction with the ABE program.

With careful attention to methodology, and an adjusted response rate of 31 percent, Beder's Iowa study represents one of the most comprehensive studies of ABE participants to date. The findings should be generalizable, and, in contrast to previous studies of this population focusing only on employment, Beder also examined non-economic effects.

However, there are limitations to the Iowa study from the point of view of our research interests. First, it only examines GED graduates, so there is no way to know whether these results represent all ABE students or just those who received their GED. We suspect that the population at the lower end of the literacy population is very different in many respects,

and that most of them probably never get their GED. Secondly, gathering the data at one place in time did not allow for the examination of change over time. We should note that respondents were asked to remember and report on these questions from periods of two to ten years ago, and to compare their current status. In some areas especially, this eliance on memory filtered through the perceptions of a later time may have affected results. Despite these limitations, the Iowa research makes a valuable contribution to the literature.

Seppanen, L. (1991). *Adult basic education in Washington Community Colleges: A follow-up study.* Olympia: Washington State Board for Community College Education.

This follow-up study of former ABE and GED students in community colleges in Washington state was developed to examine the impact of these programs on students, focusing on employment, self esteem, life satisfaction and community involvement.

The sample for the study was drawn from adults who were enrolled in 12 representative community college ABE or GED programs during the winter of 1989. Students were stratified on race and ethnic categories, and researchers created a purposeful over-sampling of all race and ethnic groups except Hispanics and whites. The sampling population included only those former students with a phone number and valid race code -- 93 percent of the total potential sample. Interviews were conducted with 182 former ABE and GED students 15 months after leaving the program, with a response rate of 26 percent.

In general, the findings from this study were sketchy at best. Researchers paid little attention to family involvement, for example, whether parent-child or marital relationships change as a result of ABE and GED classes. Finally, the response rate for this study was low, students without telephones were omitted, and the researchers acknowledge that it would be inappropriate to generalize the findings.

Darkenwald, G. & Valentine, T. (1984). *Outcomes and impact of adult basic education* New Brunswick, NJ: Center for Adult Development.

The primary objective of the Darkenwald and Valentine study was to assess outcomes and impact of participation in ABE in New Jersey, including effects on social as well as economic well being. In order to ensure a representative group of ABE participants, Darkenwald and Valentine employed a multistage, probability proportionate to program size sampling design. Telephone interviews were conducted using a questionnaire which included open-ended as well as closed-ended questions. Of the 400 potential respondents, 294 were successfully interviewed for an unadjusted response rate of 74 percent. Given the sample population, the response rate was extremely high.

The study set seven months as the minimum period for "program effects to materialize." Considering attrition rates of ABE participants and minimum time for program effects, researchers argued that seven months was ideal for the study. In addition to the seven months of participation, respondents had to have been enrolled for a minimum of 12 hours.

Darkenwald and Valentine offer valuable insights into the effects of adult basic education on economic, as well as social factors. They used an impressive sampling design, and their research was very effective, yielding a high response rate. However, there is a methodological concern with only measuring change over a seven month period. Darkenwald and Valentine justify the seven months as being "ecologically valid." However, seven months appears to be a limited amount of time to examine the sorts of life changes which were being measured in this study.

Cervero, R. (1983). *A national survey of GED test candidates: Preparation, performance, and 18 month outcomes*. Washington, D.C.: American Council on Education.

The first nationally representative, systematic study of GED graduates, this study's primary objective was to examine the employment and educational outcomes of successful GED candidates. Participants were interviewed at the time they took the GED test, and a random sample of those who passed the test were interviewed again 18 months later. 458 follow-up interviews were completed, for an adjusted response rate of 24 percent.

Cervero asked respondents in the initial survey about their expectations of getting the GED in relation to employment and further education. He then compared what they said in the follow-up interview with what had actually been the effects.

The study offers insights into the employment and educational outcomes for GED recipients, and its sampling design allows results to be generalizable. However, as with the Beder study, it is of limited application to our own research interests -- short time-frame, focus on GED level candidates, and narrowly focused outcomes studied.

Development Associates (1980). *An Assessment of the State-Administered Program of the Adult Education Act*. [cited in Darkenwald and Valentine (1984)]

This study of ABE participants was commissioned by the Office of Evaluation and Dissemination of the U.S. Office of Education to evaluate how ABE benefits its participants and society. The sample was drawn from students registered in the spring of 1979 in ABE, AHS, and ESL classes of 111 local adult education programs in forty states. It included students who had finished the program and those who had dropped out as well as those still enrolled. Telephone interviews were conducted with 1,177 individuals, for a response rate of 38 percent.

In general, the results from this study are limited by the telephone interviews, which probably excluded a substantial group of ABE students. In addition, the relationship between employment gains and participation in adult education classes is unclear. The study fails to address family and community involvement adequately. The study indicates that improvement in self-concept was a significant outcome. However the researchers fail to describe how they defined and measured self-esteem. Finally, the study ignored health related issues.

Crone, S. (1980). *Follow-up study of adult education students.* Memphis: Division of Vocational and Adult Education.

The primary objective of this study was to improve the local program where needed and provide information about the attitudes of ABE students in Memphis, Tennessee. In general, researchers were interested in the degree to which the ABE program had met the personal goals of past participants. The study sample was drawn from students who had been enrolled in ABE classes over the five years through 1979. Researchers were aiming for 500 respondents: in total 463 individuals responded to the survey, in two different samples with response rates of 34 percent and 35 percent.

This research project methodology is flawed and the results are not generalizable to other populations of ABE students. The study began with a random sample, but later disregarded randomness to receive more responses. In addition, conclusions are not supported by the data. Despite its shortcomings, this report does indicate the difficulties in tracking this population.

Boggs, D.L., Buss, T.F., & Yarnell, S.M. (1979). Adult basic education in Ohio: A program impact evaluation. *Adult Education*, *29*, 123-140.

The primary objective of the Boggs, Buss, and Yarnell study was to determine whether the purposes of the Adult Basic Education Act were being accomplished in Ohio ABE programs. It examined ABE benefits three years after enrollment. The study emphasized social involvement, employment, child/school relations, voting, home ownership, and education. It is the only outcomes study we have found to have attempted a control group, although response rates were low.

The target group for the "treatment"group included all students attending any of the 120 ABE programs in Ohio in the 1973-74 academic school year. A multistage sampling design was used to create a representative sample. The total number of former ABE students in the selected programs was approximately 3,500, of which only 1,200 had valid telephone numbers. Thus, only 34 percent of the total selected were reachable. Telephone interviews were conducted with 351 respondents in April and May of 1977, for an adjusted response rate of 29 percent (351/1200).

The control group study was based on telephone interviews with out-of-school Ohio residents who were 16 years old or older but had not completed high school. Again, a multistage sampling design was used to obtain a representative sample of this population. Telephone interviews were completed with 1,536 respondents in the control group between May and July, 1977. The report does not give a response rate for this control group.

There are several limitations with the Boggs, Buss, and Yarnell study. The response rates were very low or unknown. In addition, potential respondents without telephones were overlooked, and there were substantial numbers of these in the ABE group.

Kent, W. (1973). *A longitudinal evaluation of the ABE program.* Falls Church, VA: System Development Corp.

William Kent's 1973 longitudinal study represents the first nationwide study of adult basic education programs funded under the Adult Basic Education Act of 1966. The primary objective of the study was to evaluate the effects of adult basic education on its target group, defined as all adults between the ages of 18 and 44 with less than eight years of schooling. The study excluded certain "specialized" populations such as migrants, institutionalized students, and students in classes emphasizing English as a second language.

The study included an initial baseline interview, and follow-up interviews at 12 months and 18 months. A sample of 2,300 students was drawn from 90 programs in 15 states. Kent computed the baseline interview response rate at 77 percent. However, Darkenwald and Valentine (1984) later corrected the response rate to 62 percent. Approximately 74 percent of those interviewed in the baseline were interviewed in the first follow-up. Seventy-nine percent of that total were interviewed for the second follow-up.

The questionnaire instrument used in this study was designed to focus on issues such improved literacy, employment, and increases in intangible personal benefits. Interviews were conducted by experienced local interviewers.

Kent's study is a valuable contribution to the literature on ABE students. It represented the first study of its scale to attempt to track students for an extended period of time. Kent puts considerable emphasis on employment, but ignores or sketches over other areas. He fails to address self-esteem and barely acknowledges family and community involvement, lifestyle, and health. Finally, the results from Kent's study, while valid for the time, are 20 years old and outdated.

Chart 2. Previous Outcomes Studies in ABE

Author & Date	Year of Interviewing	Period of Time Examined	Number Interviewed & ABE Level	Major Topics Examined	Comments
Beder (1992)	1990	2-10 Years	1,597 GED Graduates	• Employment • Income & Welfare • Family Involvement • Self-Esteem • Quality of Life	• Represents one of the most comprehensive studies on ABE • Although the study covers 10 years, it only collects data at one place in time. • Only examines GED graduates
Seppanen (1991)	1990	6-9 Months	182 Former ABE & GED Students	• Employment Gains • Self-Esteem • Life Satisfaction • Community Involvement	• Findings were sketchy & not adequately supported with the data • Response rate very low • Findings not generalizable
Darkenwald & Valentine (1984)	??	7 Months	294 Former ABE Students	• Employment Gains • Relationships with Children • Self-Esteem	• Impressive sampling design and high response rate • Methodological concern over examining only 7 months
Cervero (1983)	1980-1981	18 Months	3,341 GED Candidates	• Employment • Further Education	• Results are generalizable • Range of question topics very limited
Development Associates (1980)	1979	??	1,177 ABE, AHS, and ESL Students	• Employment Gains • Family Involvement • Meeting Personal Goals	• Results are questionable • Low response rate • Only examined those students with telephones • Results not generalizable
Crone (1980)	1979	5 Years	463 ABE Students from Various Levels	• Examined how ABE had helped the students: employment, self-satisfaction, reaching goals	• Methodology flawed & results not generalizable • Began with random sample, but disregarded it to increase sample size • Results not supported by the data
Boggs, Buss, and Yarnell (1979)	1977	3-4 Years	Target Group: 351 ABE Students from 1973/74 Control Group: 1,536 ABE candidates not enrolled	• Employment • Social Involvement • Parent/Child Relationships	• Findings indicate that the impact of ABE not all positive • Only research cited utilizing a control group • Response rates for each group low • Potential respondents without telephones overlooked
Kent (1973)	1970	18 Months	2,300 ABE students between the ages of 18-44 with less than 8 years of schooling	• Employment • Earning Gains	• Represents first study of its scale to attempt to track ABE students for an extended period of time • Focuses only on employment/earnings, while overlooking or sketching over other important areas: family & community involvement, lifestyles, etc. • Findings over 20 years old and now outdated

FINDINGS

This section summarizes some of the key findings from the previous studies.

Employment and income

Previous outcomes studies have consistently found employment-related gains. Beder's Iowa study of GED graduates found the number of respondents unemployed and looking for work decreased, while the percentage of respondents employed for pay increased. Women had greater employment gains than men, and the lowest employment gains were made by the highest age group. Job skills also seem to have increased, as did job satisfaction.

Although income levels did not increase, mean incomes adjusted for inflation decreased at a rate consistent with Iowa general population figures, more respondents were able to get off welfare.

Among ABE participants more generally, Seppanen's Washington study found significant employment gains, especially for women and those between the ages of 25 and 39. Darkenwald and Valentine's New Jersey study found more participants were employed after their period in ABE, and dependence on public assistance had decreased somewhat. Kent's 1973 national study also found employment gains over the 18 months of the follow-up, and decreases in public assistance.

Development Associates and Crone both found that some respondents said that ABE had helped them get a job. Boggs, Buss and Yarnell, the only study with a control group, found that the former ABE participants were more likely to be employed than the control group, although it is not clear whether participation in ABE did increase employment (or whether people who enroll in ABE are more likely to be employed).

Relationships

Earlier studies are much less consistent in addressing changes in relationships of various kinds. Darkenwald and Valentine investigated relationships with children, and found that three-quarters of respondents reported helping their children more with schoolwork since entering ABE, and most said they were more actively involved with their children's schooling.

Development Associates asked respondents about changes in family relationships, and half said that ABE participation had helped in this area. Boggs, Buss and Yarnell, again investigating differences between the former ABE participants and the control group found mixed results. ABE participants reported attending parent-teacher meetings more, but control group respondents reported greater ease in communicating with school personnel. There were no differences between the two groups in ability to help children with schoolwork.

Kent's earlier national study found only a small increase in helping children with schoolwork.

The Ohio study also found changes in social and community involvement: former ABE participants are more likely to use the library, participate in community activities, but also more likely to discontinue friendships than the control group. Again, we do not know if this is due to ABE, or if people who enroll in ABE are more likely to be active in their communities. In the area of voting behavior, Boggs, Buss and Yarnell found no differences between the ABE group and the control group.

Feelings about self

Self esteem, feelings about oneself and life satisfaction were areas of investigation in several outcomes studies. Most of these ask people to think back to an earlier period and report on changes. Most found reports of significant improvements in self esteem. Beder's Iowa study, for example, found almost everyone reported at least some increase in self esteem, and three quarters reported much increase. Most people in Seppanen's Washington study reported life was better as a result of attending adult education classes, as did almost all of those interviewed in Darkenwald and Valentine's study.

Kent's longitudinal study and Boggs, Buss and Yarnell's study with a control group did not examine self esteem or life satisfaction.

CONCLUSIONS

Gains resulting from ABE participation/GED attainment, both personal and economic, are consistently reported in these studies. However, we cannot be confident of how real the gains are because most of the studies rely on respondents' looking back and self-reporting their gains. Respondents probably have a considerable investment in justifying self-improvement, since they had invested time and energy in ABE or GED preparation. The one study, Kent's, which used a baseline and follow-up interview found much smaller employment gains than most of the others. The one study with a control group (Boggs et al) also advised caution in assessing gains, suggesting they inhabit a middle ground between doing something "more" and "about the same."

The studies shed some light on, but do not illuminate, our initial question: what difference does participation in literacy programs make in the lives of those at the lowest literacy levels? These studies either involve only those at the top of the ABE scale or do not distinguish those at different levels. The studies also tend to focus primarily on economic and employment-related issues, despite the fact that ABE students have many different kinds of goals for themselves in enrolling in ABE. Our interest in other areas of quality of life is only spottily addressed in these studies.

These earlier studies help us plan our Tennessee longitudinal study in some important ways. They emphasize for us the importance of exploring a broader range of outcomes than simply

jobs and income. The strong emphasis in the past on job-related gains, for example, may be misleading, since by no means all ABE students enter programs with job-related goals. The earlier studies also lead us to recognize that a true longitudinal study which begins with a baseline interview and tracks people over time may reveal more viable outcomes data than studies conducted at a single time point.

The earlier studies emphasized that outcomes studies are difficult to do with any population, and perhaps especially with the low-income mobile population that is often characteristic of ABE participants. They also led us to pay careful attention to methodology, and especially to work hard at getting good response rates in the follow-up interviews.

4. FINDINGS

A: THE PARTICIPANTS

A total of 133 participants were interviewed during Year One. As described in the methodology section, people interviewed were new entrants in eight ABE Level One programs in the three regions of Tennessee. The sites were selected to be representative of either rural or urban sites in their region of the state.

SITES	# INTERVIEWED
East TN	
Knox (urban)	17
Rhea (rural)	9
McMinn (rural)	14
Middle TN	
Putnam (urban/rural)	11
West TN	
Memphis (urban)	56
Haywood (rural)	13
Fayette (rural)	10
Tipton (rural)	3

Not all Level One students in each program qualified for the study: some had been enrolled in the program in the previous year and so were not new entrants; others qualified for Level One solely by their math score on the ABLE test, but their reading level was higher. A few refused, and a small number were no shows for the interview (and for classes). Two sites had staffing difficulties and were unable to interview every qualified student. In these two sites, which were the larger urban sites in our study, the selection of students was skewed: in one site only students enrolling in day classes were interviewed (thus under-representing those who are employed and who are more likely to attend evening classes). In the other site, students enrolling in the program at a local Department of Human Services site were not interviewed (thus under-representing students receiving welfare or other transfer payments).

The importance of these issues is unknown. In the second year, steps were taken to correct both biases, yet the second cohort to date is very similar to the first in terms of employment patterns and other demographics.

Few comparative data exist to enable us to see how typical our sample was of ABE-1 students in Tennessee generally. Statewide data are collected only for age and sex at this particular level -- other data collected do not distinguish between ABE-1 and other ABE students. Across the state, 52 percent of all ABE-1 participants are female. In our survey, 55 percent are female. Across the state, 29 percent of all ABE-1 students are black. In our study, blacks are over-represented at 58 percent. In total, 21,395 adults started in ABE-1 programs during the 1991-92 program year. Our sample of 133 students is therefore less

than one percent. The limitations of our data (small sample size, some potential bias) should be borne in mind as the findings are discussed.

Detailed tables of frequencies are in **Appendix Two**. Here, some key demographic and other characteristics of the participants are summarized.

Demographics

The average age of participants in our study was 34 years. More than half (55 percent) were female. A majority were black, reflecting the larger numbers interviewed in Memphis -- Tennessee's largest city, with the largest black population (55 percent in 1990) and also the largest ABE program in the state, with over 6,000 students. Fifty eight percent of participants we interviewed were black, 39 percent were white, and 3 percent other (including Hispanic, Asian and Native American).

Less than half (42 percent) were married at the time of the interview. The average length of marriage for these persons was close to 12 years. A much larger proportion (58 percent) had children under 18.

Schooling and adult education

The average grade of school completed by these participants was eighth grade. Ninety two percent had not graduated from high school, but 8 percent had graduated (despite their current reading level of less than 6th grade). Their reasons for leaving school were varied, and fall into similar patterns to those identified in other studies. Twenty one percent said they had left because they were not doing well in school, and another 15 percent did not like school. Others left for economic reasons: 16 percent had to work for money, 7 percent just wanted to work. Seventeen percent left because they were pregnant or for medical reasons, and another 7 percent because they got married.

By far the most important reasons participants gave for enrolling in the ABE program addressed education and quality of life. Only 4.5 percent said they enrolled to get a better job or more money, while 69 percent said they wanted to further their education. About a third identified some potential barriers to their progress in the program, including health (14 percent), work conflicts (8 percent) and transportation problems (6 percent).

Over a third had previously enrolled in some type of education or training program since leaving school, half of these in a basic skills or reading program, the rest in vocational or other training.

Employment and unemployment

One third of the participants interviewed were employed. Of these, 73 percent worked full-time and 90 percent were in permanent rather than temporary jobs. Almost all those

working were in low-skilled or semi-skilled jobs, such as assembly-line workers, laborers, cooks and cleaners. Only one person was in a skilled position.

The largest single industry in which they worked was manufacturing (34 percent). This is not surprising given that a large proportion (23 percent in 1990) of employed Tennesseeans work in manufacturing jobs, and traditionally manufacturing has accounted for a large number of lower-skilled jobs in this state. Fifteen percent were in entertainment or recreational services, 12 percent worked for state or local government, 7 percent were in construction. Others were spread across agriculture/mining, transportation, trade, health services and protective services.

Average hours worked per week were 38.8. Hourly pay rates ranged from $1.56 - $15.15. Average hourly pay was $6.07 per hour, and median hourly pay was $6.00. In a state with a large proportion of low-wage jobs, these numbers are within the pay range of that for other low-skilled jobs.

Although 69 percent of the employed said their employer offered health insurance, only 57 percent were covered under the plan. Other job benefits open to some employed participants were paid vacation (57 percent), retirement plan (38 percent) and sick leave (45 percent).

Three quarters of those employed said they were satisfied with their present job. Eighty six percent felt they had a lot of responsibility at work. Sixty one percent, however, felt that, with their present skill level, they had no chance of promotion.

The two thirds who were unemployed split into two main groups: those who are looking for work (46 percent of the unemployed) and those who are not looking (64 percent of the unemployed) including homemakers, disabled and retired people, and probably those who have given up on finding a job. Sixty percent of the unemployed had worked some time during the previous five years, either part-time or full-time.

Asked why they thought it had been difficult to find a job, the unemployed but looking for work pointed to two major factors: their own lack of education and training (59 percent) and the scarcity of jobs (49 percent). Other factors of importance included transportation problems (22 percent), age (17 percent) and inability to fill out a job application (12 percent).

All participants were asked about their total household income, including all payments and government assistance. A stunning 43 percent said their total household income was less than $5,000 per year (as compared with the 9 percent of households in Tennessee who have incomes less than $5,000). Twenty percent said their total household income was between five and ten thousand, and the proportion decreased for each range on the income scale until $30,000 per year or more (10 percent). Given that the mean household income for Tennesseeans in 1989 was $31,864, and the median income, $24,807, the household incomes of participants were quite low.

Only 27 percent of respondents did not receive some type of government assistance, unsurprising given their low incomes. Forty-eight percent received food stamps, 24 percent Aid to Families of Dependent Children (AFDC), 15 percent Supplemental Security Income (SSI) and 11 percent Social Security. Only 4 percent received unemployment pay, although 30 percent of the total sample were unemployed and looking for work. Presumably unemployment benefits had run out, or participants had not qualified for unemployment pay.

Social relationships

As we might expect, this is a fairly mobile population: a third had moved in the last year. A third owned their own homes, 41 percent rented a home, and 26 percent had other living arrangements (including living with family members). An average of 1.8 children under the age of 18 live with an average 2.2 adults in their home.

Participants were quite involved in some aspects of their community. Sixty four percent were involved in their church, 13 percent were involved in the PTA (23 percent of those with children under 18). Only 29 percent said they were not involved in any club or organization.

In the state of Tennessee, 72 percent of the eligible voting population were registered to vote as of December, 1992; 73% of those registered voted in the November 1992 election. In this sample, 61 percent claimed to be registered voters, and 80 percent of these claimed to have voted in the last election. Only 38 percent said they regularly "talk politics" with family or friends. Sixty three percent feel their neighborhood is safe, but only 53 percent are satisfied with the public schools in their community. Participants on the whole are unsatisfied with government: 75 percent said that public officials do not show enough concern for ordinary people and only 30 percent were happy with the national government. Nevertheless, 63 percent believed they could bring about change in the government. Eighty three percent are hopeful about the future, although 64 percent worry about environmental problems.

Eighty seven percent of those who are married said they had a good relationship with their spouse. However, 64 percent said that they have arguments with their spouse regularly or sometimes.

Everyday literacy

Participants were asked about their everyday literacy activities. We do not know how accurate and honest their answers were: some may have over-represented their literacy activity in order to impress the interviewer. A third said they use the public library regularly or sometimes. Seventy nine percent said they regularly or sometimes read magazines, newspaper or books. Seventy four percent pay bills themselves. Sixty nine percent of those who have children say they read to them regularly or sometimes. Although these figures may seem higher than might be expected, the findings are consistent with the ethnographic

profiles conducted for the U. S. Congress, Office of Technology Assessment (Center for Literacy Studies, 1992). In that study, researchers found even very low level readers have substantial interaction with print materials in everyday life, but that their uses of reading and writing are broad but shallow. The limited literacy of our participants is indicated by the two thirds who said they sometimes or regularly need to memorize things because they can't read well enough.

Reading and writing on the job is more extensive than one might have expected. Fifty nine percent of those working said they needed to write and to work with numbers on the job, and 68 percent said they needed to read to get their work done.

Health

Health is a significant problem for a substantial minority of participants. Twenty eight percent of participants said they had a major health or physical problem at the time of interview. Sixty percent had a family doctor and 39 percent visit the local public health clinic. Twenty two percent had no medical coverage at all. Twenty four percent of participants were covered by employer-paid health insurance, 9 percent by other private insurance, 41 percent by Medicaid and 10 percent by Medicare.

Life satisfaction

In most areas of their lives most people were fairly satisfied. Sixty percent said they were happy with their city or neighborhood, and 70 percent were happy with their own home. Family life and friendships are even more satisfying: 79 percent were satisfied with their friendships, 83 percent with their family, and 85 percent of those married with their marriage. Two areas of dissatisfaction stand out: only 30 percent said they were happy with the national government, and only 34 percent were happy with their financial situation. Nevertheless, 78 percent of our participants said they were happy with their life in general.

4. FINDINGS

B: EMPLOYMENT

KEY FINDINGS

This section examines the characteristics and differences between participants who are employed and those who are unemployed. The unemployed participants were further divided into two groups: (1) those who are unemployed but are looking for work; and (2) those who are unemployed but are not looking for work. Major employment-related findings are:

- In the present sample, approximately 67 percent are unemployed and 33 percent are employed. Of those who are unemployed, 46 percent report that they are looking for a job but have found it difficult to find a job for a number of reasons, including their perceptions that they don't have enough education or training, that jobs are scarce, and that transportation is a problem.

- For employed participants, about 73 percent are in full-time jobs and 90 percent are in permanent positions. Most of the participants are in low-skilled or semi-skilled occupations, making about $6.00 an hour, and with hourly pay rates ranging from $1.56-$15.15.

  As might be expected, employed participants have much higher total household incomes than unemployed participants. While 59 percent of the employed have total household incomes of $15,000 or more, a similar 59 percent of unemployed, not looking for work and 69 percent of unemployed and looking for work have incomes at the other end of the range, $5,000 per year or less.

- Males constitute the highest percentage of those who are employed, and females the highest percentage of those who are unemployed but not looking for work. Those people who are seeking a job are evenly split between males and females.

- More of the employed participants are white, and a high percentage of those who are unemployed but not looking for work are black.

- More employed participants are married, while unemployed participants in both groups tend to be unmarried.

- Unemployed participants tend to receive Food Stamps, Aid to Families with Dependent Children, and Supplemental Security Income at higher rates than employed participants. Nevertheless, 20 percent of the employed receive foodstamps and 46 percent receive other transfer payments in their households.

- Most participants report having some type of medical insurance, Medicaid, or Medicare.
- Participants who are unemployed not looking for work are more likely to report that health problems often keep them from doing things they want to do.
- Employed participants report higher levels of Community and Personal Satisfaction.

COMPARATIVE DATA

Earlier studies of different ABE populations (including GED graduates and samples of all ABE students) found varying numbers of employed participants. Time and place obviously make a difference in employment rates. In Beder's Iowa study of GED graduates (Beder, 1992), 54 percent had been employed at the time they took that test, and 19 percent had been unemployed, looking for work. Thirty eight percent were working in low skill jobs before they took their GED, and only 24 percent had worked in skilled jobs. Mean incomes adjusted for inflation were $18,971, but this had dropped by 1990, in concert with the average incomes of other Iowans.

Seppanen's Washington state study found 42 percent employed in 1989, before their involvement in ABE. Darkenwald and Valentine found that thirty eight percent of the ABE participants they interviewed in New Jersey in 1984 were employed. Kent's 1973 national study found 58 percent were employed in some capacity at the time of the baseline interview, and 26 percent were receiving welfare or public assistance.

Studies by the Literacy Assistance Center in New York of 1990-91 ABE students found that 44 percent were employed full-time and 9.7 percent part-time. Twenty one percent were receiving welfare payments, 13 percent were unemployed and looking for work and 17 percent unemployed and not looking. Three percent were incarcerated.

These studies may indicate that the employment rate of participants in our study was a little lower than usual for ABE students: however, how much of this is due to the context of a state in serious economic conditions at the time of our study, and how much specifically to ABE students in Tennessee, is hard to say. Employment rates for our participants are only a little lower than those reported for all ABE students in Tennessee (including all ABE levels) for 1991-92 (59 percent of all ABE participants were unemployed, compared with 67 percent of our sample).

EMPLOYMENT RESULTS

One of the reasons that participants enroll in Adult Basic Education programs is to improve their skills or education so that they can either get a job, get a better job, or improve their position at their present employment. Given this concern about bettering their employment

status, it seems natural for this report to explore how employment relates to other factors in one's life.

This section of the report is divided into four parts, each focusing on a different aspect of how employment relates to other factors:

- **A Description of Employed and Unemployed Participants in this Study.** This section examines descriptive statistics for employed participants relative to the types of jobs they have, their income, and the types of job benefits they receive. For unemployed participants, statistics are provided for how long they have been unemployed and whether they are presently seeking employment.

- **Relationship of Employment to Major Demographic Variables.** This section explores differences in employment related to several factors: gender, race, marital status, children, health problems, age, education, and region of the State.
- **Relationship of Employment to Income-, Family-, and Health-Related Hypotheses.** Are there differences in household income and supplemental income payments between employed participants, unemployed participants looking for work, and unemployed participants who aren't looking for work? Is family life different for these three groups? Are, for instance, employed participants more satisfied with their marriages and family life? Are there differences in health problems between the three groups? This section explores these and other questions.

- **Relationship of Employment to Life Satisfaction Indices.** This section explores the relationship between employment and five dimensions of life satisfaction: (1) Community Satisfaction; (2) Personal Satisfaction; (3) Activism/Efficacy; (4) Political Activism; and (5) Religion.

(i) A Description of Employed and Unemployed Participants in this Study.

In this baseline group of Year One participants in the Adult Basic Education Longitudinal Study, 67 percent of respondents are unemployed. This is as compared to a 59 percent unemployment rate among students across all levels of Adult Basic Education in Tennessee. Descriptive statistics for this study's respondents are presented in **Table 1.** Of those who are unemployed, 46 percent are seeking employment, 34 percent are not seeking a job, and the remaining 20 percent are either retired, homemakers, or unable to work due to health conditions. In the analysis that follows, all the unemployed, not looking for work participants are grouped together, and compared with the unemployed but looking and the employed groups.

Almost 60 percent of the unemployed participants in this study have worked in the last five years, at either full- or part-time jobs. Those who are unemployed and seeking employment report that they have found it difficult to find jobs primarily for the following reasons: not

enough education or training (58.5 percent), jobs are scarce (49 percent), and problems with transportation (22.5 percent).

Descriptive statistics for the employed respondents in this study are presented in **Table 2.** Of those participants who are employed (33 percent), most are employed full-time (73 percent) at permanent jobs (90 percent). The types of occupations that these participants hold are primarily low-skilled (41 percent) or semi-skilled (57 percent) positions, such as assembly-line workers, laborers, cooks and cleaners. The average rate of pay is approximately $6.00 an hour.

Pay-rates for employed respondents in this study are comparable to pay rates of Tennesseeans employed in low- or semi-skilled occupations. For instance, in Tennessee in 1992, fast food cooks earned a mean wage of $4.53 an hour; janitors and cleaners earned a mean wage of $6.34 an hour; hand laborers earned mean wages of $7.68 an hour; and assembly line workers earned mean wages of $8.22 an hour (Tennessee Department of Employment Security, 1992).

Employment benefits vary considerably: 57 percent of the employed report having a paid vacation, 38 percent have a retirement plan, 45 percent have sick leave, 69 percent have health insurance, and only 29 percent have no benefits. Of those participants who are offered a health plan by their employer, 57 percent report that they are covered by this plan, 50 percent report that their employer pays a portion of the insurance premium, 39 percent report that this plan covers their spouse (if they are married), and 45 percent report that the insurance covers their children or dependents.

Table 1.

Unemployed Respondents	Percent	Number*
1. Percent unemployed	67%	89
2. Percent unemployed who are:		
Looking for work	46%	40
Not looking for work	34%	30
Unable to work due to health condition	9%	8
Homemakers	5%	4
Retired	6%	5
3. Percent unemployed who have worked in the past five years:	60%	53
Part-time	47%	25
Full-time	32%	17
Both part-time and full-time	21%	11
4. Percent looking for work who have found it difficult to find a job for the following reasons (persons responded to as many items as were applicable):		
Not enough education or training	60%	24
Jobs are scarce	50%	20
Transportation problems	22.5%	9
Age	17.5%	7
Unable to fill out job application	12.5%	5
Didn't like work conditions, pay, etc.	10%	4
Other problems	10%	4
Childcare problems	5%	2
Gender	5%	2

* The numbers in this table do not consistently sum to 89 because some persons did not respond to questions which applied to them.

Table 2.

Employed Respondents	Percent	Number
1. Percent employed	33%	44
2. Breakdown on employed:		
Full-time	73%	32
Part-time	25%	11
Other	2%	1
3. Percent employed who have permanent jobs	90%	40
4. Occupation		
Low-skilled	41%	18
Semi-skilled	57%	25
Skilled technical/technicians, craftspeople	2%	1
5. Average hourly pay rate		$6.07/hour
6. Percent who have the following benefits available:		
Paid vacation	57%	24
Retirement plan	38%	16
Sick leave	45%	19
Health insurance plan	69%	29
No benefits	29%	12
7. Percent employed and covered by employer's health plan	57%	25
8. Percent for whom employer pays a portion of health insurance premium	50%	22
9. Percent married for whom health insurance covers their spouse.	39%	17
10. Percent for whom health plan covers their children	45%	20

Table 3 provides the ranges of respondents' total household incomes, which include any income from supplemental payments. As one would expect, employed participants generally have much higher household incomes than the unemployed. For instance, 69 percent of those unemployed but looking for work and 59 percent of the unemployed not looking for work have household incomes that total less than $5,000. On the other hand, 59 percent of the employed participants have household incomes of $15,000 or more.

Table 3.

	Total Household Income							
	Less than $5,000	$5,000-$9,999	$10,000-$14,999	$15,000-$19,999	$20,000-$24,999	$25,000-$29,999	$30,000 or more	Totals
Employed	4 (10%)	8 (21%)	4 (10%)	5 (13%)	7 (18%)	2 (5%)	9 (23%)	39
Unemployed, Looking for Work	20 (69%)	5 (17%)	2 (7%)	2 (7%)	0	0	0	29
Unemployed, Not Looking for Work	19 (59%)	7 (22%)	4 (13%)	0	1 (3%)	0	1 (3%)	32
TOTALS	43	20	10	7	8	2	10	100.0

(ii). Relationship of Employment to Major Demographic Variables.

The analyses in this section and in the next two sections divides the participants into three groups. The first group represents those who are presently **employed** (33 percent of our sample). The second group consists of participants who are **unemployed but looking for work** (30 percent). Finally, the third group is those persons who are **unemployed not looking for work** (37 percent). This group consists of persons who are self-identified as not looking for work, unable to work due to health conditions, homemakers, and retired persons. The three groups reflect those participants who are in the labor pool (the first two groups) and those who are not in the labor pool.

Table 4 presents the relationship of these three groups on several major demographic variables. The three groups are similar in some respects. The average educational level is a little past eighth grade (the unemployed looking for work group is slightly higher, at the ninth grade level); a minority of of the three groups report major physical or health problems at the time of the interview (although the unemployed not looking for work group reports more physical problems); and the distribution of the three groups is similar for the three regions of the State of Tennessee (the highest percentages of all three groups is in the West, followed by the Eastern part of the State, with little representation from Middle Tennessee). These figures reflect the distribution of participants for the Year One study.

The distribution of employed blacks and whites is approximately 50/50; that is, of the 43 employed participants who were either black or white, 22 of those employed were white and 21 were black. Among the unemployed, however, the picture shifts somewhat. For those participants who are unemployed looking for work, about 59 percent are black and 41 percent are white. For those people who are unemployed but not looking for work, 71 percent are black. Thus, blacks are slightly more represented in the unemployment ranks of the participants interviewed in this study.

There are statistical differences due to gender, marital status, and age between the three groups. As shown in **Table 4**, males comprise a high percentage (68 percent) of those who are employed, while females constitute an even higher percentage (79 percent) of those who are unemployed not looking for work. Curiously, for those participants who are unemployed but looking for work, the male/female split is exactly 50/50; i.e, an equal number of males and females are seeking employment. The trend is similar when marital status is factored in. Married participants reflect 68 percent of those who are employed, while unmarried participants comprise a high percentage of those who are unemployed looking for work (75 percent) and those who are just unemployed (67 percent). Finally, the average ages of the three groups differ: both the employed and unemployed not looking for work participants average 36 years of age. The unemployed but looking for work group is younger, average 29 years of age. Taken together, employed participants are mostly married males in their mid-thirties, while the unemployed not looking for work group tends to be unmarried females also in their mid-thirties. The other group is a different mixture; those who are seeking work tend to be either males or females, mostly unmarried, and in their late twenties.

Table 4.

Major Variables		Employed	Unemployed Looking for Work	Unemployed Not Looking for Work	Significance Test
1. Gender	Male	30 (68%)	20 (50%)	10 (21%)	
	Female	14 (32%)	20 (50%)	37 (79%)	$\chi^2=20.55$**
2. Race	White	22 (51%)	16 (41%)	13 (29%)	
	Black	21 (49%)	23 (59%)	32 (71%)	$\chi^2=4.56$
3. Marital Status	Married	30 (68%)	10 (25%)	15 (33%)	
	Not Married	14 (32%)	30 (75%)	31 (67%)	$\chi^2=18.75$**
4. Do you have children under 18?					
Yes		29 (66%)	21 (55%)	23 (52%)	
No		15 (34 %)	17 (45%)	21 (48%)	$\chi^2=1.84$
5. Do you have any major physical problems at this time?					
Yes		9 (20%)	9 (22.5%)	19 (40%)	
No		35 (80%)	31 (77.5%)	28 (60%)	$\chi^2=5.41$
6. Average Age		36.00 Years	29.10 Years	36.28 Years	F=3.83*
7. Average Grade Completed		8.43	9.31	8.15	F=2.49
8. Region	East	19 (43%)	12 (30%)	9 (19%)	$\chi^2=7.50$
	Middle	2 (5%)	5 (12.5%)	4 (9%)	
	West	23 (52%)	23 (57.5%)	34 (72%)	

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

(iii). Relationship of Employment to Income-, Family-, and Health-Related Hypotheses.

This section explores the relationship of employment to other income-, family-, and health-related hypotheses.

Table 5 examines ways, other than income from employment, that the three groups bolster their household income, including selling or bartering activities and participation in supplemental income programs, such as food stamps, Aid to Families with Dependent Children, or Supplemental Security Income. In terms of relying on supplemental activities such as gardening, trading, bartering, or selling things at the flea market, employed participants rely on these activities slightly more (32 percent) than either unemployed participants looking for work (15 percent) or unemployed participants who are not looking for work (13 percent).

In terms of other supplemental income programs, however, unemployed participants in both categories are clearly the major recipients. Unemployed participants receive food stamps, Aid to Families with Dependent Children (AFDC), and Supplemental Security Income (SSI) all at a higher rate than employed participants. Taken together, over 80 percent of unemployed participant's households versus 46 percent of employed participant's households include at least one of the following payments: food stamps, AFDC, Unemployment pay, Worker's Compensation, JTPA/JOBS program allowance, SSI, WIC, or Social Security.

In terms of family/homelife-related hypotheses (see **Table 6**), as might be expected, employed participants are more likely to own their home (65 percent altogether), while unemployed participants who are looking for work are more likely to rent or have other arrangements, such as living with relatives (a total of 45 percent for renting and 45 percent for other arrangements). Unemployed participants who are not looking for work are most likely to rent (60 percent). **Table 6** also indicates that all three groups have on average about the same number of people living in the home, an average of about two adults. In terms of moving in the last year, both the employed group and the unemployed not looking for work group did not move very much. On the other hand, those unemployed looking for work have moved considerably more (53 percent of this group has moved versus almost 75 percent not moving in the other two groups).

When comparing only those participants who are married, **Table 6** shows that all three groups report similar feelings about their marriages. All three groups report good relationships with their spouses, good feelings overall about their marriages, and a moderate number of arguments with their spouses.

Table 5.

Income-related Hypotheses	Employed	Unemployed Looking for Work	Unemployed Not Looking for Work	Significance Test
1. Do you rely on things such as gardening, trading, bartering, or selling things at the flea market to help make ends meet?				
Yes	14 (32%)	6 (15%)	6 (13%)	
No	30 (68%)	33 (85%)	41 (87%)	χ^2=5.90
2. Does your total household income include foodstamps?				
Yes	8 (20%)	26 (65%)	26 (58%)	
No	32 (80%)	14 (35 %)	19 (42%)	χ^2=18.92**
3. Does your total household income include Aid to Families with Dependent Children?				
Yes	3 (7.5%)	12 (30%)	15 (33%)	
No	37 (92.5%)	28 (70%)	30 (67%)	χ^2=8.91*
4. Does your total household income include Supplemental Security Income (SSI)?				
Yes	2 (5%)	5 (12.5%)	11 (24%)	
No	39 (95%)	35 (87.5%)	34 (76%)	χ^2=6.86*
5. Does your total household income include any of the following types of payments:				
Yes	19 (46%)	35 (87.5%)	38 (84%)	
No	22 (54%)	5 (12.5%)	7 (16%)	χ^2=22.05**

**p < 0.01; *p < 0.05

Table 6.

Family/Homelife-related Hypotheses	Employed	Unemployed Looking for Work	Unemployed Not Looking for Work	Significance Test
1. Do you own your home, rent, or have some other arrangement?				
Own	29 (66%)	4 (10%)	11 (23%)	
Rent	8 (18%)	18 (45%)	28 (60%)	
Other	7 (16%)	18 (45%)	8 (17%)	χ^2=40.39**
2. I have a good relationship with my spouse? (Scored on a five-point scale--the higher the score, the better the perceived relationship).	4.43	4.20	4.00	F=0.99
3. How often do you have arguments with your spouse? (Scored on a four point scale--a high score indicates less frequent arguments).	2.30	2.78	2.62	F=1.09
4. How do you feel about your marriage? (Scored on a five-point scale--the higher the score, the better the feelings about the marriage).	4.57	4.00	4.07	F=1.38
5. How many adults live in your home, self-included?	2.45	2.00	2.07	F=2.01
6. Have you moved in the last year?				
Yes	11 (25%)	21 (52.5%)	12 (26%)	
No	33 (75%)	19 (47.5%)	34 (74%)	χ^2=8.99*

**p < 0.01; *p < 0.05

In terms of health-related hypotheses, **Table 7** demonstrates that a majority of all three employment groups report that they and/or their families have medical insurance, Medicaid, or Medicare. Similarly a majority of all three groups report having a family doctor (65 percent for employed; 55 percent for unemployed looking for work, and 57 percent for unemployed not looking for work).

There are significant health-related differences among the three groups on other factors. For instance, unemployed participants in both categories visit local public health clinics much more often than do employed participants (50 percent unemployed looking for work, 54 percent unemployed not looking for work, versus 14 percent for employed). More importantly, unemployed participants who are not looking for work are more likely to report that their health keeps them from doing what they want to do. In this regard, both the employed participants and the unemployed looking for work participants report equal levels of health. Health problems do not hinder them as much as they do the unemployed participants who are not looking for work.

Table 7.

Health-related Hypotheses	Employed	Unemployed Looking for Work	Unemployed Not Looking for Work	Significance Test
1. Do you and your family have medical insurance, Medicaid, or Medicare?				
Yes	37 (84%)	29 (74%)	33 (73%)	
No	7 (16%)	10 (26%)	12 (27%)	$\chi^2=1.75$
2. Do you have a family doctor?				
Yes	28 (65%)	22 (55%)	27 (57%)	
No	15 (35%)	18 (45%)	20 (43%)	$\chi^2=0.98$
3. Do you visit the local public health clinic?				
Yes	6 (14%)	20 (50%)	25 (54%)	
No	38 (86%)	20 (50%)	21 (46%)	$\chi^2=18.45^{**}$
4. How often does your health keep you from doing things you want to do? (Scored on a four-point scale--a high score indicates that health is not often a problem).	3.41	3.31	2.57	$F=8.91^{**}$

$^{**}p < 0.01$

(iv). Relationship of Employment to Life Satisfaction Indices.

Participants in this study responded to several questions related to their life satisfaction. These questions were factor analyzed to determine the dimensions of life satisfaction within these questions. Results revealed that most of the questions clustered into five interpretable factors: Community Satisfaction, Personal Satisfaction, Activism/Efficacy, Political Activism, and Religion. Composite scores on each of these factors were calculated. Differences among the three employment groups were explored on these life satisfaction indices. In the following analyses, results are presented in terms of an overall score for each index along with scores on each of the questions that comprise that index. Scores on individual questions range from 1 to 5, or 1 to 4, depending upon the scale used to measure that question. All composite indices, however, have been converted to summed z-scores. The range of scores for these composites varies from -3.00 to 3.00.

Table 8 demonstrates clear differences between employed and unemployed participants on several Community Satisfaction factors. Employed participants are more likely to think their own neighborhood is a safe place to live, feel better about their city or neighborhood, feel better about their house/apartment, and like their community more. In all these cases, the average of employed participants was higher than that of both groups of unemployed participants. A majority of all three groups felt somewhat dissatisfied about the national government and felt that their community has good quality public schools. On the other hand, unemployed participants looking for work were slightly more likely to use the public library than either of the other two groups.

Table 9 presents similar results relating to Personal Satisfaction factors. Employed participants felt better about their hobbies, about their family life, about their friendships, about their health, about their finances, and about life in general. In all cases, the averages of the employed participants were higher than those of the other two groups.

There seem to be no clear differences, however, on the other three indices among the three groups. On Activism/Efficacy (see **Table 10**), all three groups tend to do the following equally often: pay bills themselves, talk to neighbors, attend community meetings, and be active in clubs and organizations. On Political Activism factors (see **Table 11**), all three groups feel fairly hopeful about the future; feel moderate success in being able to bring about needed change in the government; and rarely talk politics with family and friends. Finally, all three groups feel equally positive about their religion (see **Table 12**).

As was seen in the earlier sections on self-esteem, it seems clear that being employed is strongly related to both personal and community satisfaction.

Table 8.

Community Satisfaction Factors	Employed	Unemployed Looking for Work	Unemployed Not Looking for Work	Significance Test
1. Overall community satisfaction	z=0.25	z=-0.15	z=-0.13	F=7.12**
2. My community has good quality public schools.	3.41	3.10	3.11	F=1.05
3. My neighborhood is a safe place to live.	4.07	3.20	2.93	F=10.87**
4. I am satisfied with my community.	3.89	3.28	3.43	F=3.25*
5. How often do you use the public library?	1.58	2.18	1.91	F=3.55*
6. How do you feel about your house/apartment?	4.36	3.53	3.77	F=4.42*
7. How do you feel about your city/neighborhood?	4.18	3.10	3.04	F=10.00**
8. How do you feel about your community?	4.18	3.30	3.41	F=6.45**
9. How do you feel about the national government?	2.91	2.67	2.91	F=0.48

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

Table 9.

Personal Satisfaction Factors	Employed	Unemployed Looking for Work	Unemployed Not Looking for Work	Significance Test
1. Overall personal satisfaction	z=0.37	z=-0.30	z=-0.14	F=14.94**
2. How do you feel about your hobbies?	4.39	3.37	3.67	F=5.57**
3. How do you feel about your family life?	4.71	4.13	4.20	F=4.06*
4. How do you feel about your friendships?	4.52	3.89	4.07	F=3.87*
5. How do you feel about your health?	4.41	3.89	3.43	F=6.56**
6. How do you feel about your finances?	3.48	1.82	2.60	F=14.35**
7. How do you feel about your life in general?	4.55	3.68	4.17	F=6.41**

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

Table 10.

Activism/Efficacy Factors	Employed	Unemployed Looking for Work	Unemployed Not Looking for Work	Significance Test
1. Overall activism/efficacy	z=0.12	z=-0.04	z=-0.09	F=1.12
2. How often do you pay bills yourself?	3.20	3.25	3.04	F=0.36
3. How often do you talk to neighbors?	3.30	3.08	3.11	F=0.61
4. How often do you attend community meetings?	1.72	1.67	1.64	F=0.06
5. How active are you in clubs and organizations?	1.18	0.93	0.91	F=1.23

Table 11.

Political Activism Factors	Employed	Unemployed Looking for Work	Unemployed Not Looking for Work	Significance Test
1. Overall political activism	z=-0.08	z=0.13	z=-0.05	F=1.00
2. I feel hopeful about the future.	3.89	4.28	3.85	F=2.46
3. As a citizen I can help bring about needed change in government.	3.45	3.70	3.53	F=0.55
4. How often do you talk politics with friends and family?	1.95	1.97	2.02	F=0.05

Table 12.

Religion	Employed	Unemployed Looking for Work	Unemployed Not Looking for Work	Significance Test
1. How do you feel about your religion?	4.33	4.19	4.14	F=0.34

CONCLUSIONS

As a group, participants in this study follow our many of our expectations about adults with low literacy skills. Only a third of them have jobs, and almost all of these are low-skill jobs. More than two-thirds of those employed are men. Average wages are around $6.00 an hour, a level characteristic of most blue collar factory and service sector jobs in Tennessee. We may compare this wage level with the average found for a group of women textile workers who were studied by the Center for Literacy Studies after they had lost their jobs due to a plant closing (Merrifield et al, 1991). Average wages before the plant closed in 1988 were $7.08 per hour, and dropped to $5.36 per hour in their first job after the plant closed.

Those who are unemployed and not looking for work tend to be women, black and not married. Forty percent of them have major physical problems, and more than half have children under 18. Participants who are unemployed and looking for work are younger than the others and tend to be not married. They are evenly divided between men and women. Sixty percent of them identified lack of education and training as a reason for their inability to find work. Fifty percent noted that jobs are scarce.

As one would expect, both groups of unemployed participants are more likely than the employed to receive supplemental payments such as AFDC, food stamps, Supplemental Security Income and other transfer payments. Nevertheless, 20 percent of the employed report that they get food stamps, and 46 percent of the households with an employed participant receive supplemental payments of some kind -- with their low incomes, they are among the "working poor."

Being employed seems to affect both personal and community satisfaction. Employed participants feel better than do the unemployed about their hobbies, family life, friendships, health, finances and their life in general. Similarly, in terms of community satisfaction, employed participants feel better about almost all aspects of their community -- their own home, the safety and quality of their own neighborhood and community.

All three groups felt somewhat dissatisfied about the national government. And all three groups felt that their community has good quality public schools. There were also no clear differences among the groups of employed and unemployed participants in the other life satisfaction indices -- activism/efficacy, political activism and religion.

This baseline survey indicates plenty of room for improvement in employment-related areas. Substantial numbers of those who are unemployed and looking for work feel that improved education might help them get a job, and this is something our longitudinal study can track. Among the employed, job skills are low and so are wages, and our tracking over time can explore whether increased literacy skill affects these factors. Unemployment was a particular issue for women and blacks, so if ABE participation has an effect, we can expect disproportionate effects on these two groups.

Perhaps most importantly, we are beginning to see the impact of employment on other areas of people's lives. As the next section on self esteem will show, employment has a lot to do with how people feel about themselves and their communities. It is possible that the significant gains in life satisfaction and similar measures found in earlier outcomes studies may be mediated through the employment gains each found.

This baseline study begins to indicate the complexity and interdependence of aspects of people's lives. Changing one factor -- reading skill -- may be expected to have magnified effects if it impacts on certain key factors such as employment.

4. FINDINGS

C: SELF ESTEEM

KEY FINDINGS

The self-esteem of participants in the Year One of the Adult Basic Education Longitudinal Study was examined using the Rosenberg Self-Esteem Scale. The major findings are as follows:

- The overall self-esteem of participants in this ABE sample is somewhat lower than comparison groups.
- What contributes to self-esteem, however, was found to be a complex interaction between various aspects of a person's life, including his or her physical health, employment status, and personal and community satisfaction.
- Higher self-esteem levels were associated with having a job and with job satisfaction, but not with levels of pay.
- Higher self-esteem levels were also associated with having no health problems.
- Males, overall, had higher self-esteem levels than females in this sample.
- Better relationships with your spouse and better feelings overall about one's marriage also contributed to higher self-esteem. Curiously, an interaction was found between gender and marital status: the highest self-esteem levels were associated with married males, and the lowest self-esteem levels were correlated with married females.
- Higher levels of Community Satisfaction, Personal Satisfaction, and Political Activism contributed to higher levels of self-esteem.

COMPARATIVE DATA

Few studies have systematically examined self esteem among ABE and literacy students, despite the almost universal belief that as a group students enter program with low self esteem, and that one of the major benefits of ABE programs is the increase in self esteem they can generate. Some of the outcomes studies reviewed asked people to compare how they felt about themselves at the time of interview with how they felt when they entered ABE or took their GED test. Most did find that people reported improvements in feelings about themselves. However, these studies provide little guidance on ABE students' self esteem at the time they entered the programs.

Anecdotal evidence suggests generally low esteem, and most teachers who come into contact with students believe this. No studies have been found using the Rosenberg Self Esteem Scale with comparable populations. However, Beder (1991) summarizes studies using the longer Tennessee Self Concept Scale (TSCS), which show that adult literacy students have lower self esteem than comparison groups. Darkenwald (1986) has questioned the use of the TSCS for low-literate populations, and Beder agrees that the reliability and validity of all these studies is questionable (Beder, 1991:32-33). A few researchers have used the Cooper-Smith Self Esteem Inventory and found ABE students do not have lower self esteem than other populations (reviewed in Beder, 1991). At best, earlier studies give mixed results, and no clearly definitive answers to the question of whether ABE students as a whole lack self esteem.

SELF-ESTEEM RESULTS

The focus of this section of this report is to examine the self-esteem of the participants in Year One of the Longitudinal Study of ABE Participants in Tennessee. This section is divided into four parts, with each part addressing ways in which self-esteem of ABE participants is related to other dimensions of their personal and social situations:

- **Self Esteem of ABE Participants Compared to Other Populations.** A description of the Rosenberg Self-Esteem Inventory is provided, along with overall averages on self-esteem for the present population. These overall averages are then compared to other populations, such as higher literacy groups including students and/or working adults, to test the belief that the self-esteem of ABE populations is lower than that of other groups.

- **Relationship of Self-Esteem to Major Demographic Variables.** This section explores differences in self-esteem as related to several factors: gender, race, marital status, children, employment status, physical condition, age, education level, and region of the State. The focus of this section is on ways in which self-esteem relates to various factors influencing a person's quality of life.

- **Relationship of Self-Esteem to More Specific Income-, Family-, and Health-Related Hypotheses.** Are there differences in self-esteem due to both gender and employment status or to both gender and marital status? In other words, do employed males and females have the same levels of self-esteem? Do married males and females have the same self-esteem? This section examines these and other specific hypotheses in the realms of income, family and health.

- **Relationship of Self-Esteem to Life Satisfaction Indices.** This section explores how self-esteem relates to self-reported dimensions of life satisfaction. The following five dimensions are examined: (1) Community Satisfaction; (2) Personal Satisfaction; (3) Activism/Efficacy; (4) Political Activism; and (5) Religion.

(i). Self-Esteem of ABE Participants Compared to Other Populations.

The Rosenberg Self-Esteem Scale (Rosenberg, 1965) was used as the measure of self-concept and self-esteem in the present study. The Rosenberg is composed of ten statements, judged on a 5 point Likert scale (agree strongly, agree, undecided, disagree, disagree strongly). Some of the statements (numbers 1, 3, 4, 7, and 10) are worded positively and others (numbers 2, 5, 6, 8, and 9) are worded negatively. If, for example, a respondent strongly agrees with a positive statement, he or she is endorsing the statement in the direction of high self-esteem. On the other hand, if the respondent strongly agrees with a negative statement, he or she is endorsing the statement in the direction of low self-esteem. Thus, the responses (strongly agree, agree, etc.) were assigned numerical values ranging from one to five, with five always indicating high self-esteem and one always indicating low self-esteem. The ten scale items, and their respective means and standard deviations, are presented in **Table 13.** A reliability analysis conducted on the ten item scale to assess internal consistency of the items revealed a Cronbach's alpha of .79, which indicates a moderately high level of reliability on this scale. Furthermore, this level of reliability is similar to that found in several other studies using the Rosenberg (Schmitt & Bedeian, 1982; Orme, Reis, & Herz, 1986; Ward, 1977; Walters & Simoni, 1993).

Table 13. Rosenberg Self-Esteem Scale Items

Question	Mean	Std. Dev.
1. On the whole I am satisfied with myself.	3.72	1.10
2. At times I think I am no good at all.	3.10	1.24
3. I feel that I have a number of good qualities.	4.17	0.77
4. I am able to do things as well as most other people.	4.04	0.91
5. I feel I do not have much to be proud of.	3.39	1.29
6. I certainly feel useless at times.	3.19	1.20
7. I feel that I'm a person of worth at least on an equal level with others.	4.06	0.76
8. I wish I could have more respect for myself.	2.87	1.39
9. All in all I am inclined to feel that I am a failure.	3.84	1.04
10. I take a positive attitude toward myself.	4.17	0.87
11. Total Self-Esteem Score	3.64	0.63

A total score on the Rosenberg scale was calculated by averaging the scores on all ten items for each participant. The total score mean for this group of ABE participants was 3.64, indicating a self-esteem a little above the halfway point on the five point scale.

To see how this average self-esteem score compares to other populations, a survey was constructed, containing the self-esteem scale and other demographic information. This survey was administered to different populations at the University of Tennessee. The results of this survey, compared to the Adult Basic Education population, are presented in **Table 14.**

This table presents four comparison groups. The first group is represented by students in an introductory psychology class at the University of Tennessee. The second group consists of evening school students in an advanced psychology class. The third comparison is from the combined scores of these two groups. Finally, only the oldest students in these two samples (representing students over 26 years of age) were considered. As can be seen from **Table 14**, all of these groups are essentially higher in self-esteem than the Adult Basic Education population in the longitudinal study (the over 26 was not quite to statistical significance, probably due to the small sample size).

Certainly more comparison groups are needed, especially groups with similar socioeconomic status as the ABE student participants. This tentative evidence suggests that as a group the students in the longitudinal study are relatively low in self-esteem when they enter literacy programs, a fact which tends to confirm anecdotal reports of literacy practitioners. This evidence, however, must be considered as preliminary until norms for other comparison groups are established. The evidence for low self-esteem in ABE groups is far from conclusive.

Table 14.
Comparison of Self-Esteem of Longitudinal Sample with Other Groups

Sample	Mean	Std. Dev.	T-test
Longitudinal Sample (n=133)	3.64	0.63	
College Sample (n=136)	3.91	0.58	t=3.86**
Evening School Sample (n=25)	3.97	0.71	t=2.20*
College and Evening School Sample (n=161)	3.92	0.60	t=4.00**
Over 26 Subsample (n=29)	3.93	0.76	t=1.93

**p < 0.01; *p<0.05

(ii). Relationship of Self-Esteem to Major Demographic Variables.

Given the low literacy levels that characterize all of our present participants, are there differences in self-esteem within subgroups of this sample? Is self-esteem related strictly to low literacy or is it influenced by other factors in a person's life?

The results of analyses presented in **Table 15** show self-esteem differences in relation to gender, race, marital status, children, employment status, physical condition, age, education, and region of the State. Significant differences in self-esteem scores were found on gender, employment status, and physical condition. In terms of gender, males have significantly higher self-esteem than females ($t=-2.31$, $p<0.05$). In terms of employment status, the employed have significantly higher self-esteem than the unemployed looking for work and the unemployed not looking for work ($F=-5.38$, $p<0.01$). In terms of physical condition, those who do not currently have major physical or health problems have significantly higher self-esteem than those who do ($t=2.68$, $p<0.01$).

For this particular ABE population, then, higher self-esteem is associated with having a job and also being in good health. This is consistent with what other researchers found in a study looking at the different "roles" of middle-aged and older black women. They used the Rosenberg and found that among both middle-aged and older black women, employed women had higher self-esteem and better health (Coleman, Antonucci, Adelmann, & Crohan, 1987). That employment and health are both related to self-esteem suggests that self-esteem is related to conditions in one's life which, in addition to literacy, affect or add to the quality of one's life. That males are higher than females may be indicative of the differing life conditions of the two groups, an issue which will be explored in a later section of this report.

The analysis of several other major variables in the study failed to reveal differences in self-esteem between groups or significant correlations in relation to self-esteem. These variables include: race, marital status, whether respondents have children under 18, age, education, and region. Thus, there are no differences in self-esteem between blacks and whites ($t=-1.45$), marrieds and not-marrieds ($t=-0.75$), and those who have children under 18 versus those who do not ($t=-1.12$). Also, neither respondent's age nor respondent's attained level of education is significantly correlated with self-esteem scores ($r=0.02$ and $r=-0.01$, respectively). Finally, there were no significant differences in self-esteem among East Tennesseeans, Middle Tennesseeans, and West Tennesseans in this study ($F=2.21$).

Table 15.

Major Variables	Self-Esteem Average	Significance Test
1. Sex		
Male	3.78	
Female	3.53	t=-2.31*
2. Race		
White	3.55	
Black	3.72	t=-1.45
3. Marital Status		
Married	3.70	
Not married	3.61	t=-0.75
4. Do you have any children under 18?		
Yes	3.68	
No	3.56	t=-1.12
5. Employment Status		
Employed	3.87	
Unemployed Looking for Work	3.61	
Unemployed Not Looking for Work	3.46	F=5.38**
6. Do you have any major physical or health problems at this time?		
Yes	3.41	
No	3.73	t=2.68**
7. Correlation of Age and Self-Esteem Score		r=0.02
8. Correlation of Grade Completed and Self-Esteem Score		r=-0.01
9. Region		
East	3.56	
Middle	3.35	
West	3.72	F=2.21

**p < 0.01; *p < 0.05

(iii). Relationship of Self-Esteem to More Specific Income-, Family- , and Health-Related Hypotheses.

This section extends the discussions of the previous section to examine more specific income, family-, and health-related hypotheses.

Income and Work: As was shown in the previous section, work contributes to one's concept of self-esteem. Those participants who were employed had higher self-esteem scores than those not employed. The question arises as to how other types of income payments a person receives might affect self-esteem. Additionally, it seems logical to see if the amount of money one earns is related to self-esteem. The analyses of these questions are presented in **Table 16.**

Respondents were asked whether their total household income included any of the following payments: Food Stamps, Aid to Families with Dependent Children (AFDC), Unemployment pay, Worker's Compensation, JTPA/JOBS Program allowance, Supplemental Security Income (SSI), WIC, or Social Security. Statistical analysis revealed that respondent's self-esteem varied according to the types of payments they received. More precisely, those respondents whose households receive some type of Social Security payment (such as disability, veteran's, retirement, or survivor's payments) have lower self-esteem than those whose households do not ($t=2.02$, $p<0.05$). Also, those whose households do not receive any of the supplemental payments inquired about in this study have higher self-esteem than those whose do ($t=-2.28$, $p<0.05$). Self-esteem, however, is not significantly correlated with respondent's rate of pay ($r=0.26$), nor is it significantly correlated with respondent's total household income ($r=0.11$).

Table 16.

Income-related Hypotheses	Self-Esteem Average	Significance Test
1. Does your household income include Social Security payments? Yes No	 3.32 3.67	 t=2.02*
2. Does your household income include payments of any kind? Yes No	 3.56 3.84	 t=-2.28*
3. Rate of Pay		r=0.26
4. Income		r=0.11

*p < 0.05

Our questionnaire contained nine questions related to the workplace and various aspects of job satisfaction. These nine variables were submitted to a factor analysis in an attempt to see if clusters of related questions emerged. In other words, are there certain dimensions of working that underlie the nine questions that were asked? From this analysis, four factors emerged. The first factor was named **Workplace Literacy**, and consisted of high loadings on three questions: How often do you write on the job? How often do you work with numbers on the job? and How often do you need to read to get your work done? The second factor was called **Job Satisfaction**, and contained high loadings on four questions related to job satisfaction or performance: I am satisfied with my job; I have chance for promotion, How often do you miss work because of illness?; and How do you feel about your work? The other two factors had only one question significantly loading on each of them: I have a lot of responsibility at work; and How often do you have problems understanding rules and regulations at work? These two questions were combined in a single category representing, **Job Skills**.

Composite scores were computed for each of these factors. Self-esteem scores were analyzed as to how they related to the three aspects of the work environment: (1) Work-place literacy; (2) Job Satisfaction; and (3) Job Skills. The results of these analyses are presented in **Table 17**.

As can be seen from **Table 17**, self-esteem seems to be unrelated to aspects of the work environment described by the above factors. Only one variable, "I am satisfied with my present job," produced a positive correlation, which indicates that higher self-esteem levels are associated with more job satisfaction. It seems, then, that self-esteem is related overall to having a job or not having a job. Once someone is employed, however, based on our sample, the only factor that relates to self-esteem is job satisfaction.

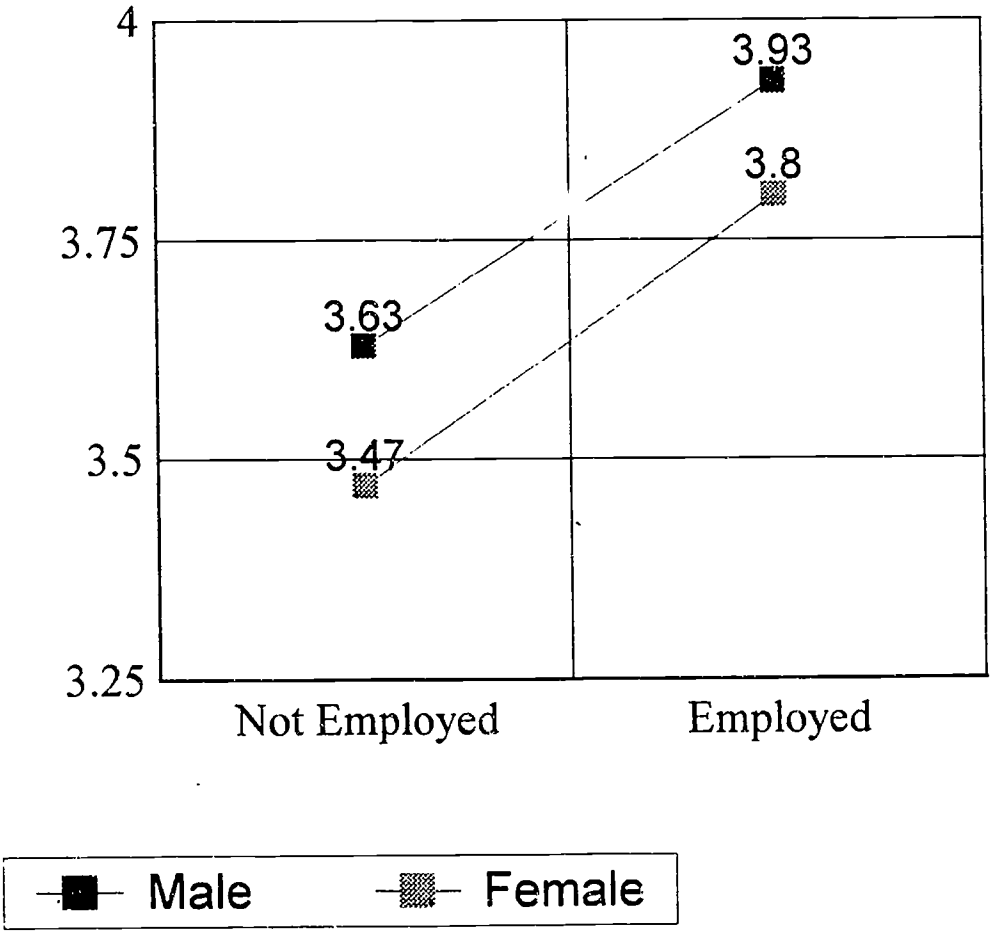
Table 17.

Work Environment Hypotheses	Significance Test
1. **Workplace Literacy Factors** Overall workplace literacy	r=-0.20
How often do you need to write on the job?	r=-0.22
How often do you work with numbers on the job?	r=-0.20
How often do you need to read to get your work done?	r=-0.11
2. **Job Satisfaction Factors** Overall job satisfaction	r=.15
I am satisfied with my present job.	r=0.41**
With my present skill level, I have no chance for promotion.	r=-0.07
How often do you miss work because of illness?	r=-0.07
How do you feel about your work?	r=0.25
3. **Job Skills Factors** Overall job skills	r=.26
I have a lot of responsibility at work.	r=0.29
How often do you have problems understanding rules and regulations at work?	r=0.10

**p < 0.01

The interaction of gender and employment on self-esteem was also analyzed. Are there differences between employed males and females on self-esteem? unemployed males and females? **Figure 1** presents the relationship of gender to employment on self-esteem. Analyses revealed only a main effect due to employment ($F=7.04$, $p< 0.01$); that is, higher self-esteem scores, in this case, are associated strictly with employment. Employed males and females have approximately the same levels of self-esteem, which are higher than those of both unemployed males and unemployed females.

Figure 1: Relationship of Gender and Employment on Self-Esteem



Family and Homelife

In terms of family- and homelife-related hypotheses, several interesting results were found. The most striking finding concerns the interaction of gender and marital status on self-esteem, which is presented in **Figure 2**. A curious picture emerges from this figure. It seems that unmarried males and females have approximately the same level of self-esteem. Marriage, however, in this sample tends to produce a dramatic contrast: married males have much higher self-esteem than married females ($F=4.39$, $p < 0.01$ for the interaction).

Significant differences in self-esteem were also found relative to home-owner status, spousal relationship, and quality of marriage (see **Table 18**). In terms of home owner status, a significant F-ratio ($F=9.80$, $p<0.01$) was achieved in a two-way analysis of variance of home-ownership and self-esteem. A multiple comparison procedure (Bonferroni T tests) was applied to determine which self-esteem averages were different from which others, and it was revealed that respondents who own their homes or have some other arrangements such as living with a relative have higher self-esteem than those who rent their homes.

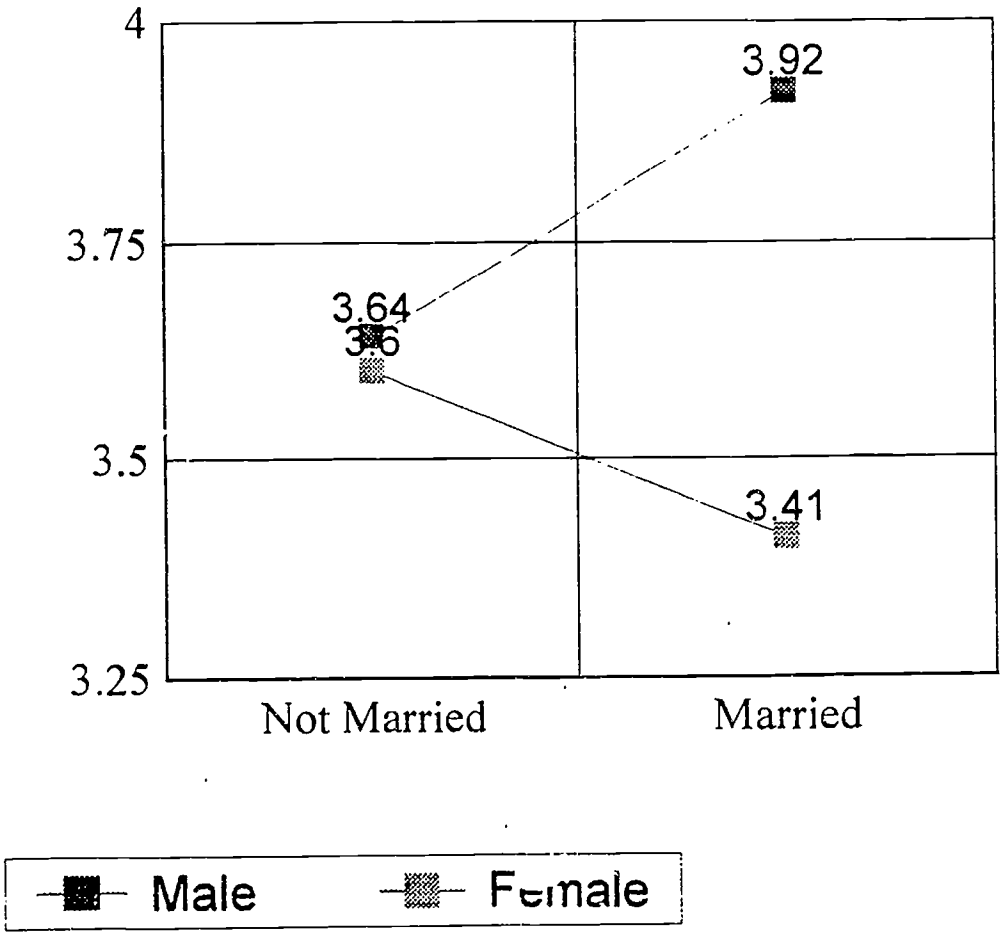
In terms of spousal relationship, self-esteem is significantly positively correlated with the respondent's perceived quality of the relationship ($r=0.41$, $p<0.01$). In other words, those who feel good about their relationship with their spouse tend to have higher self-esteem and those who do not feel good about their spousal relationship tend to have lower self-esteem. Similarly, regarding feelings about the marriage, self-esteem is significantly positively correlated with the respondent's perceived feelings about the marriage ($r=0.32$, $p<0.05$). Thus, those who have higher self-esteem tend to feel good about their marriages, and those with lower self-esteem tend to feel badly about their marriages.

Table 18.

Family/Homelife-related Hypotheses	Self-Esteem Average	Significance Test
1. Do you own your home, rent , or have some other arrangement?		
Own	3.91	
Rent	3.39	
Other	3.71	F=9.80**
2. I have a good relationship with my spouse (the higher the score, the better the perceived relationship).		r=0.41**
3. How do you feel about your marriage? (the higher the score, the better the perceived marriage).		r=0.32*

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

Figure 2: Relationship of Gender and Marital Status on Self-Esteem



Health: For health-related hypotheses regarding self-esteem, both a significant difference and a significant correlation were found (see **Table 19**). First, respondents who have some form of health coverage (insurance, Medicaid, or Medicare) have higher self-esteem than those who have no health coverage ($t=2.13$, $p<0.05$). Secondly, self-esteem is significantly positively correlated with the degree to which a respondent's health prevents activities ($r=.21$, $p<0.05$). More precisely, those with higher self-esteem tend to report that they are less restricted due to health than those with lower self-esteem.

Table 19.

Health-related Hypotheses	Self-Esteem Average	Significance Test
1. Do you and your family have any of the following: medical insurance, Medicaid or Medicare?		
Yes	3.70	
No	3.42	t=2.13*
2. How often does your health keep you from doing things you want to do? (a high score indicates that health is not often a problem)		r=.21*

*p < 0.05

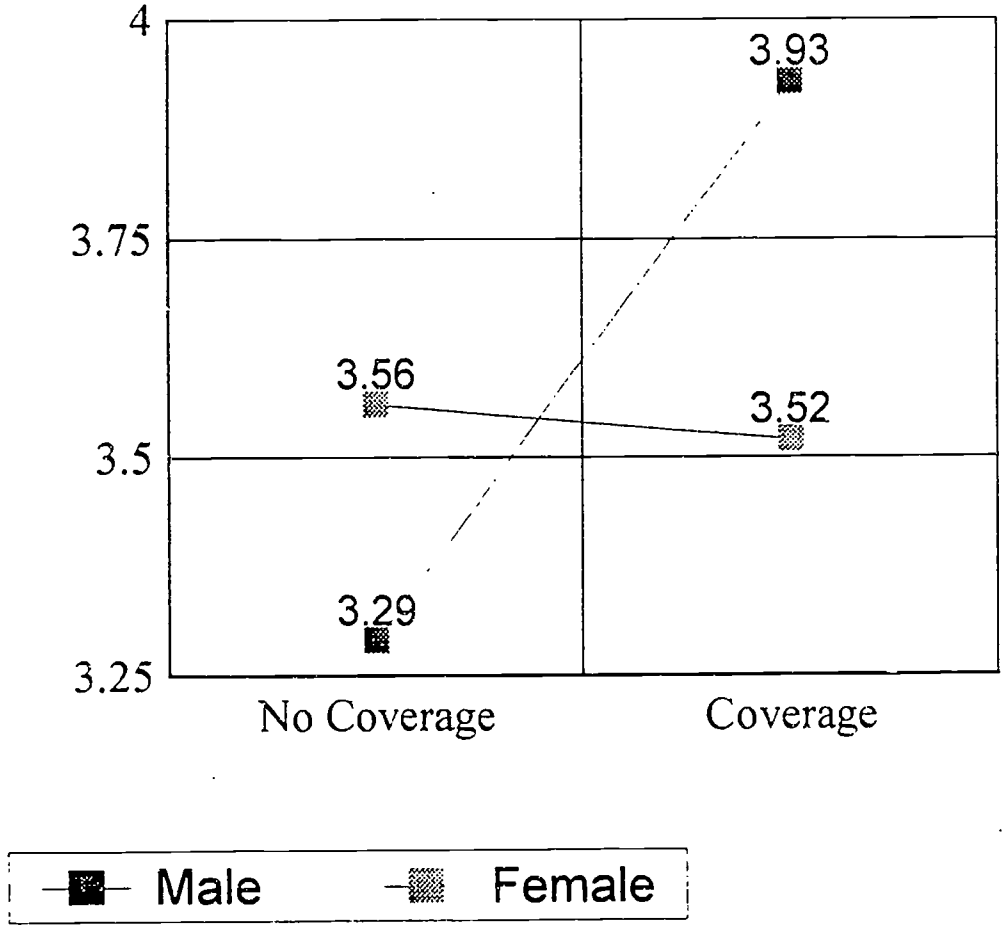
There is a significant interaction between gender and health coverage as presented in **Figure 3**. It seems that females have about the same level of self-esteem, whether they have health coverage or don't have health coverage. For the males, however, a different picture emerges: males with health coverage have significantly higher self-esteem scores than males who don't have health coverage ($F=7.23$, $p < 0.01$ for the interaction).

(iv). Relationship of Self-Esteem to Life Satisfaction Indices

Correlations between self-esteem and the composite scores for life satisfaction and between self-esteem and the individual questions comprising each factor are presented in the following tables: Community Satisfaction (**Table 20**); Personal Satisfaction (**Table 21**); Activism/Efficacy (**Table 22**); Political Activism (**Table 23**); and Religion (**Table 24**).

High self-esteem scores were related to feelings of Community Satisfaction. Participants who felt positively about their community, their city/neighborhood, their house/apartment, and who felt that their community had good schools and was a safe place to live had higher self-esteem scores. This indicates that feelings of self-esteem are connected with perceptions of and/or feelings about the environment in which one lives.High self-esteem scores were also related to most indices of Personal Satisfaction. Feelings of positive family life, friendships, health, and finances all contributed to a positive sense of self-esteem. On the

Figure 3: Relationship of Gender and Health Coverage on Self-Esteem



other hand, a sense of Activism/Efficacy did not relate to self-esteem nor did feelings toward Religion. Political Activism, however, was positively correlated with self-esteem. Thus, participants who feel they can bring about change in the government and who frequently "talk politics" with friends and family had higher self-esteem scores.

Table 20.

Community Satisfaction Factors	Significance Test
1. Overall community satisfaction	r=.33**
2. My community has good quality public schools.	r=.19*
3. My neighborhood is a safe place to live.	r=.39**
4. I am satisfied with my community.	r=.28**
5. How often do you use the public library?	r=-.03
6. How do you feel about your house/apartment?	r=.24**
7. How do you feel about your city/neighborhood?	r=.26**
8. How do you feel about your community?	r=.10
9. How do you feel about the national government?	r=.10

**p < 0.01; *p < 0.05

Table 21.

Personal Satisfaction Factors	Significance Test
1. Overall personal satisfaction	r=.34**
2. How do you feel about your hobbies?	r=.16
3. How do you feel about your family life?	r=.23**
4. How do you feel about your friendships?	r=.25**
5. How do you feel about your health?	r=.23**
6. How do you feel about your finances?	r=.21*
7. How do you feel about your life in general?	r=.26**

**p < 0.01; *p < 0.05

In this type of analysis, the researcher is trying to predict self-esteem from other variables which are seen as contributing to its development. From our preceding analyses, the following variables have been isolated as being related to high levels of self-esteem: Gender, Marital Status, Employment Status, Physical or Health Problems, whether or not one receives Supplemental Payments in the household, and three of the life satisfaction indices: Community Satisfaction, Personal Satisfaction, and Political Activism. These eight independent variables were entered into a stepwise multiple regression analysis, with self-esteem as the dependent variable.

A stepwise multiple regression looks for independent variables that have high correlations with the dependent variable and low intercorrelations with each other. In other words, it is attempting to find those variables which contribute the most to predicting a dependent variable, such as self-esteem. The first, best, predictor is isolated, then the next best predictor is added, and so forth.

Five of the eight variables were found to be significant predictors of self-esteem. In order, these variables are as follows: Personal Satisfaction (R^2= .11); Political Activism (R^2=.17); Physical Problems (R^2=.21); Employment (R^2=.24); and Community Satisfaction (R^2=.26). Gender, Marital Status, and Payments did not add anything to the predictions above the five previous variables. In other words, the five variables of Personal Satisfaction, Political Activism, Physical Problems, Employment, and Community Satisfaction, taken together, explain 26 percent of the variance in the variable of self-esteem. From our sample, these five variables are the major predictors of self-esteem. High self-esteem is associated mostly with high levels of personal and community satisfaction, with being politically active, with being employed, and with having no health problems.

That these variables do not explain more than 26 percent of the variance in self-esteem can be contributed to one of two factors: (1) The Rosenberg Self-Esteem Scale may not be best overall measure of self-esteem, i.e., self-esteem may be a more complicated construct than can be measured by ten questions on a rating scale. The problem then becomes the limitations in several of self report scales in quantitative research; or (2) Other unmeasured variables are more predictive of self-esteem, variables which have not been isolated by the present study. What these variables might be, however, is problematic, given that this study has examined a broad range of social and personal variables.

CONCLUSIONS

According to the Rosenberg Self Esteem Assessment, the participants in the study do have lower self esteem than some other populations. No data could be found for other populations similar in terms of class, employment and marital status, and since this study finds self esteem to be strongly influenced by these factors, the comparative data is therefore not definitive. It should be noted, also, that while average self esteem scores of participants were lower, there is a substantial range in self esteem levels, from low to high; thus not all ABE participants are low in self esteem as commonly believed. Nevertheless, there is room for improvement.

Perhaps the most interesting findings of this study are the complex interaction found between self esteem and other aspects of people's lives, including physical health, employment status, and personal and community satisfaction. The evidence suggests that low self esteem is not merely a function of low literacy levels, but of many aspects of life, some of which in turn may be related to low literacy (like employment) but some of which may not be (health, marriage).

Higher self esteem levels were associated with having a job and with job satisfaction -- but not with pay level. Higher self esteem was also associated with being healthy: those with major health problems tended to have lower self esteem. While being married by itself did not at first appear to affect self esteem, perhaps the most interesting finding of this section shows the interaction between gender and marriage. Married men had much higher self esteem than unmarried men. Married women in contrast had much lower self esteem than unmarried women. Better relationships with spouses and better feelings overall about one's marriage were associated with higher self esteem.

Self esteem is also interconnected with various life satisfaction measures. Higher self esteem is associated with higher levels of community satisfaction, personal satisfaction and political activism. From multiple regression analyses, five variables were isolated as being the best indicators of self esteem: personal satisfaction, political activism, employment, no health problems, and community satisfaction. However, these factors account for no more than 26 percent of the variance in self esteem, indicating self esteem is a complex construct not fully measured in this study.

As we continue with the longitudinal study, we will be alert to changes not only in self esteem, but also to how these changes are mediated by the individuals' starting points and other life experiences and feelings. The simplistic notion that low literacy creates low self esteem, and that self-esteem can be "fixed" in a reading program are unlikely to be adequate. We must be prepared to explore a complex issue.

4. FINDINGS

D: MARRIAGE AND FAMILY LIFE

KEY FINDINGS

This section of the report examines three aspects of marital and family life of ABE students. First, similarities and differences between married and unmarried participants are explored. Second, the inter-generational effects of educational attainment are investigated. Finally, parental involvement in a child's school and literacy activities is examined, with additional comparisons of participants who had children under 18 and those who did not. The major results are as follows:

- In our present sample, more of the married participants were white males and more of the unmarried participants were black females.

- Married participants tend to have higher levels of both Community and Personal Satisfaction.

- From the current data, if neither of the participant's parents graduated from high school, it seems that many of the participant's siblings dramatically exceed the rates of their parents and go on to graduate. On the other hand, if both parents did graduate, then siblings are very likely to model parents and attain the same high graduation rates. Finally, when only one of the two parents graduated, siblings are more likely to graduate than if neither parent did, but less likely than if both parents did. In the midst of these three scenarios, however, are the participants in this study. For some reason, they are only slightly improving on their parents' educational levels in the first case and much less likely than either their parents or siblings to graduate in the latter two cases.

- All participants who were parents expected their children to finish high school. On the other hand, literacy activities at home, such as reading or telling stories to children, are more varied, with some parents doing them regularly and some not at all.

- Married participants without children tend to feel a little better about their marriage. In other aspects, however, having children or not having children did not make much difference in how one views one's personal or social situation.

COMPARATIVE DATA

Few earlier outcomes studies have explored marriage and family life in any depth. Darkenwald and Valentine's study of New Jersey ABE participants (Darkenwald and Valentine, 1984) did focus especially on relationships with children, including helping with

homework and involvement with school. Beder's Iowa GED graduates study (Beder, 1992) also asked about helping children with homework. However, we do not have a clear "before" picture from either of these studies. Darkenwald and Valentine found that at the time of interview, seven months after enrollment in ABE, three quarters of the respondents with children reported helping their children with homework "more" than before. Over 80 percent reported that they talked to their children more, and 73 percent reported that their children have developed better attitudes toward school. Half of the respondents said they were now more involved in school activities, including attending meetings and talking with teachers. Beder found that 54 percent of respondents in their thirties, who might be expected to have children, reported helping their children -- but we do not know exactly how many actually had children in school. Kent found that 55 percent of all respondents in the baseline interview had helped children with school work in the past year, although only 51 percent actually had children of school age.

We know still less about marriage and family characteristics of ABE students. Most outcomes studies have not focussed on marriage and family issues, although Fingeret's social networks research (1983) indicates that participating in ABE programs and gaining literacy skills may have quite profound impacts on social networks predicated on a person's inability to read. Anecdotal evidence from ABE teachers also suggests that marital difficulties and divorces sometimes result when spouses feels they are losing power because their partners gain independent reading ability.

The final area of interest in this part of our study is on inter-generational effects of literacy and schooling. The argument is a commonplace one: parents who dropped out of school and do not read well have children who have difficulties in school, and so on, generation after generation. Government programs such as the Even Start Family Literacy Program are designed to "break the cycle." What we know about emergent literacy suggests this assumption is plausible, and that learning to read is most easily accomplished when a child is surrounded by texts in the home, is read to, and sees others reading and writing -- conditions unlikely in homes where both parents do not read well.

However, the actual evidence for an inter-generational cycle of illiteracy is rather thin. Simply noting that high proportions of the parents of adults now in literacy programs did not graduate from high school is not enough. Especially in the South, probably a majority of most people's parents did not graduate from high school simply because it was not the norm to graduate in times past. We have to more carefully compare graduation rates for the general population with that of the parents of ABE participants, and to track their own children as well, again comparing with the "norm" for the communities in which they live. We must also look at issues of race and class and how these impact on graduation rates, over and above reading abilities.

MARITAL AND FAMILY RESULTS

This section of the report examines three aspects of the marital and family life of Adult Basic Education students. First, similarities and differences between married students and those who are not married are examined on such variables as gender, age, education level, and the

life satisfaction indices. Secondly, inter-generational effects on educational attainment are investigated. For instance, are persons more likely to graduate from high school if their mothers and/or their fathers also graduated from high school? Finally, for respondents in our sample who have children, parental involvement in terms of children's school and literacy activities is explored. Also, in this section, comparisons are made between students who have children under 18 and those who do not.

(i). Relationship of Marital Status to Major Demographic Variables.

From previous sections of this report, the following results have been found to be related to marital status. First, there is no overall difference in self esteem between married and unmarried participants. When both gender and marital status are considered, however, a bigger difference is found on self-esteem. Unmarried males and females are at approximately the same level of self-esteem. Married males are highest on self-esteem and married females are the lowest. Secondly, in terms of employment status, a majority of people who are employed in this sample are also married.

In what other ways do married and unmarried participants differ? **Table 25** presents a comparison of these two groups on several demographic variables. In terms of gender, married participants are slightly more likely to be male (56 percent) than female (44 percent). On the other hand, unmarried participants are predominately more female (62 percent) than male (38 percent). This same pattern seems to hold when race is examined. More unmarried participants are black (70 percent) than white (30 percent), whereas slightly more married participants are white than black. Examining the variable of region of the State at the bottom of **Table 25** may help explain some of these differences. More unmarried participants are from West Tennessee (69 percent) than from East and Middle Tennessee combined; married participants are evenly split between the eastern and western sections of Tennessee.

Seventy-six percent of married participants have children under 18 whereas only 44 percent of unmarried participants have children. Marital status does not seem to contribute to major physical or health problems. The average age of both groups is also similar, approximately in the mid-thirties. Finally, the average grade completed for both groups is a little above eighth grade.

Table 25.

Major Variables	Married	Not Married	Significance Test
1. Gender			
Male	31 (56%)	29 (38%)	
Female	24 (44%)	48 (62%)	χ^2=4.53*
2. Race			
White	29 (57%)	23 (30%)	
Black	22 (43%)	54 (70%)	χ^2=9.27**
3. Do you have any children under 18?			
Yes	38 (76%)	32 (44%)	
No	12 (24%)	40 (56%)	χ^2=12.02**
4. Do you have any major physical or health problems at this time?			
Yes	16 (31%)	20 (26%)	
No	35 (69%)	57 (74%)	χ^2=0.44
5. Average Age	36.44	33.42	t=-1.28
6. Average Grade Completed	8.15	8.89	t=1.63
7. Region			
East	22 (43%)	18 (23%)	
Middle	5 (10%)	6 (8%)	
West	24 (47%)	53 (69%)	χ^2=6.40*

**p < 0.01; *p < 0.05

(iii). Relationship of Marital Status to Life Satisfaction Indices.

Does being married influence a person's satisfaction with various dimensions of his or her personal and social life? This section examines this question by comparing married and unmarried participants on the five Life Satisfaction indices developed for this study.

Married participants, overall, seem to be much more satisfied with their community, as can be seen from the results in **Table 26**. Married participants are more likely to report that their community has good quality public schools; their neighborhood is a safe place to live; they are satisfied with their community; and that they feel better about their house/apartment, their city or neighborhood, and their general community than unmarried participants. Unmarried participants (who are also more likely to be unemployed), however, did use the public library more often than did the married group. Finally, in terms of feelings about the national government, both groups were approximately the same in their ratings.

Married participants, overall, are also much happier with several factors in their personal life, as can be seen in **Table 27**. The married group felt better than the unmarried group about their hobbies, their family life, their friendships, and about life in general. Both groups reported the same level of satisfaction with their general health and both groups were equally unhappy about their finances.

The other three life satisfaction indices, however, revealed no differences between these two groups. On Activism/Efficacy (**Table 28**), both groups paid bills themselves at the same rate, talked to neighbors frequently, did not attend community meetings very often, and belonged, on average, to about one club or organization. On Political Activism (**Table 29**), both groups felt reasonably hopeful about the future, felt to a certain extent that they could bring about needed change in government, and did a moderate amount of talking about politics with friends and family. Finally, on Religion (**Table 30**), both groups were very satisfied with their religion.

Table 26.

Community Satisfaction Factors	Married	Not Married	Significance Test
1. Overall community satisfaction	z=0.21	z=-0.14	t=-3.62**
2. My community has good quality public schools.	3.63	2.93	t=-3.56**
3. My neighborhood is a safe place to live.	3.96	3.08	t=-4.33**
4. I am satisfied with my community.	3.92	3.31	t=-3.19**
5. How often do you use the public library?	1.61	2.05	t=2.43*
6. How do you feel about your house/apartment?	4.29	3.68	t=-2.71**
7. How do you feel about your city/neighborhood?	4.14	3.08	t=-4.86**
8. How do you feel about your community?	4.18	3.36	t=-3.98**
9. How do you feel about the national government?	2.71	2.91	t=0.84

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

Table 27.

Personal Satisfaction Factors	Married	Not Married	Significance Test
1. Overall personal satisfaction	z=0.20	z=-0.14	t=-3.21**
2. How do you feel about your hobbies?	4.26	3.61	t=-2.42*
3. How do you feel about your family life?	4.73	4.09	t=-3.72**
4. How do you feel about your friendships?	4.45	4.03	t=-2.29*
5. How do you feel about your health?	4.02	3.86	t=-0.64
6. How do you feel about your finances?	2.92	2.53	t=-1.41
7. How do you feel about your life in general?	4.44	4.03	t=-2.08*

**p < 0.01; *p < 0.05

Table 28.

Activism/Efficacy Factors	Married	Not Married	Significance Test
1. Overall activism/efficacy	z=0.05	z=-0.04	t=-0.70
2. How often do you pay bills yourself?	3.27	3.09	t=-0.84
3. How often do you talk to neighbors?	3.21	3.13	t=-0.46
4. How often do you attend community meetings?	1.55	1.79	t=1.28
5. How active are you in clubs and organizations?	1.08	1.00	t=-0.48

Table 29.

Political Activism Factors	Married	Not Married	Significance Test
1. Overall political activism	z=-0.07	z=0.04	t=0.85
2. I feel hopeful about the future.	3.36	4.09	t=1.30
3. As a citizen I can help bring about needed change in government.	3.49	3.61	t=0.62
4. How often do you talk politics with friends and family?	1.98	1.97	t=-0.04

Table 30.

Religion	Married	Not Married	Significance Test
1. How do you feel about your religion?	4.35	4.15	t=-1.00

(iii). Inter-generational Effects on Graduating from High School.

If your mother or father graduated from high school, how likely are you also to have also graduated? Conversely, if your mother or father did not graduate from high school, are you more likely to follow in their footsteps and not complete your own education? Does how far your parents progressed in school also affect your brothers and sisters?

These important questions relate directly to some of the long term objectives of this Longitudinal Study. Most of the participants in this group have not graduated from high school. Their involvement in literacy programs attests to their desire to improve their literacy levels and perhaps to attain more education, such as a GED or a high school diploma. Often they hope to help their children be more successful in school.

Participants in this study were asked a series of questions about whether their parents or siblings graduated from high school. The number of siblings that participants had varied greatly. Also, some of the participants did not know the educational histories of their parents and/or siblings. From the data that were collected, however, a number of interesting patterns emerged.

Looking at the first column in **Table 31**, labelled "Overall Graduation Rates of Family Members," about 26 percent of the fathers of participants in our study graduated and 30.5 percent of their mothers graduated from high school. Continuing to look down this column, we can see that the graduation rates for brothers and sisters of participants is, on average, about twice the rates for their parents. (For instance, the first brother had a rate of 50.5

Table 31.

Family Member	Overall Graduation Rates (n=133)	Graduation Rates Where Neither Parent Graduated (n=53)	Graduation Rates Where Only One Parent Graduated (n=27)	Graduation Rates Where Both Parents Graduated (n=14)
Father	26%	0%	65%	100%
Mother	30.5%	0%	35%	100%
First Brother	50.5%	37%	50%	80%
Second Brother	51%	40%	82%	75%
Other Brothers	27%	12%	58%	50%
First Sister	60%	57%	50%	87.5%
Second Sister	47.5%	50%	43%	75%
Other Sisters	35%	27%	--	100%
Participant	7.5%	9%	0%	14%
Spouse	29.5%	22%	25%	50%

percent; the second brother, 50.7 percent; the first sister, 60.4 percent; and the second sister, 47.5 percent) The lower rates for the categories "Other Brothers" and "Other Sisters", may be slightly confounded in our study; these brothers and sisters may not have been old enough to graduate from high school yet, thus lowering our percentages.

There are certainly many factors which contribute to whether a person graduates from high school. The family environment is important, to be sure; researchers must also consider the community attitudes toward education; the money spent on education within a community; the attitudes of one's peers toward school; and the broader value that a society places on education, as well as race, gender and class issues.

At least from the data presented so far, it does seem that the ABE-1 participant's brothers and sisters, on average, are more than twice as likely to graduate from high school as did their parents. In fact, the graduation rate of most of these siblings is close to the 1990 Census finding that overall 57.9 percent of adults 25 and older in Tennessee had graduated from high school. Furthermore, as evidenced in the Tennessee Survey (Social Science Research Institute, 1991), the graduation rates of siblings and their parents parallel the trend in Tennessee for each generation to exceed the graduation rates of the previous generation. This survey, a telephone survey of a random sample of Tennesseeans, found that while only 15 percent of respondents reported not graduating from high school, 44 percent of their

fathers and 43 percent of their mothers did not graduate. It should be noted that the Tennessee Survey significantly over-represents high school graduates in the current generation because it is a telephone survey and more middle class and educated people are likely to respond.

It is within this context that we must try to interpret the low graduation rate (7.5 percent) for participants in our study. By the very nature of enrolling in ABE classes, most of our participants have not graduated from high school and are seeking to enhance their skills and/or attain a GED through ABE classes. For whatever reasons, these participants have emerged from families where the parents have low graduation rates, but their siblings have higher rates. The participants themselves do not follow the inter-generational trend toward increased graduation rates, but their siblings do follow this trend.

How are these graduation rates affected if neither of the participant's parents graduated from high school? In the second column of **Table 31**, evidence is presented for those participants who had neither parent graduate from high school. As can be seen from the table, the graduation rates of siblings are slightly lower than the overall rates, but still dramatically higher than the rates for the parents. For instance, the first brother graduated 37 percent of the time, and the first sister, 57 percent; both of these are in comparison to a zero level for their parents. The rate of graduation for participants in this study is high, about 9 percent, when compared to a zero percent level for their parents.

What happens to these graduation rates if one parent graduates from high school; that is, a participant has either a mother or father who graduated? From the third column of **Table 31**, it can be seen that if only one parent graduates from high school, it is more likely that it was the father who graduated (65 percent vs. 35 percent for the mothers). Graduation rates for brothers and sisters, in this case, tend to fall between the rates for mothers and fathers, with the percentages in most cases falling closer to the higher levels of the father. In other words, if only one parent graduated from high school, sibling rates do not dramatically exceed their parents but they are no worse. This, however, is not the case for the participants in our study; their rates fell to zero percent in the situation where one parent graduated from high school.

Finally, what is the situation when both parents have graduated from high school? Only a small number of our participants (about 15 percent) had this situation; thus our comparisons should not be stretched too far. Looking at the last column in **Table 31**, it seems that the graduation rates for siblings are very high when both parents have graduated from high school. In most case, siblings had rates about 75 percent or higher. In fact, in this situation, participant graduation rates were the highest, about 14 percent.

What are we to make of these data overall? Once again, trying to explain why someone did or did not graduate from high school is a complex matter. The present data, on inter-generational graduation rates, can only help us approximate some answers to this tricky question. From the current data, if neither parent graduated from high school, it seems that

most of the siblings dramatically exceed the rates of their parents and go on to graduate. If, however, both parents graduated, then siblings are likely to model parents and attain the same high graduation rates. Finally, when only one of the two parents graduated, the siblings are somewhat more likely to graduate than if neither parent did, but somewhat less likely than if both parents did.

In the midst of all three scenarios, however, are the participants in this study. For some reason, they are only slightly improving on their parents educational levels in the first case, and even when both parents graduated they are only somewhat more likely to graduate. Why this is so will prove to be a starting point for other research efforts. Family patterns of schooling will especially be illuminated by the qualitative components of this study.

The following sections examines the impact of being a parent on various aspects of life. There are five parts:

- **Breakdown of Age and Educational Level for Children under 18.** For those who have children, this section describes their children's ages and whether their children are currently in school.

- **Parental Involvement with School and Literacy Activities of Children.** This section explores the school and literacy activities of parents in our sample, including how often they help with homework, how much they read to their children, and how often they visit their child's school.

- **Comparison of Participants with Children and those without Children on Major Demographic Variables.** This section considers whether people who have children differ from those who do not in terms of gender, race, physical problems, age, educational level, and region of the State.

- **Comparison of Participants with Children and those without Children on Family/Homelife Related Hypotheses.** Does having children impact such things as feelings about one's spouse and marriage, frequency of arguments with one's spouse, and whether one owns or rents a home?

- **Comparison of Participants with Children and those without Children on Life Satisfaction Indices.** This part explores how children might affect scores on the five life satisfaction indices.

(iv). Parental Involvement with School and Literacy Activities of Children.

Of our present participants, slightly more than half (57.5 percent) reported having children under 18 years of age (see **Table 32**). Of those participants who have children living in their home (regardless of whether these children are their own), the children's age ranges are varied: 43 percent have children under 5 in the home; 53 percent have children between 5

and 11; and 62 percent have children between 12-18. Approximately 70 percent of the respondent's children are in school; 8 percent are in Head Start programs and 7 percent attend both Head Start and school programs. Only 15 percent of the parents report their children are not in any kind of school-related program.

Table 32.

Breakdown of Age and Educational Level for Children Under 18	Percent	Number
1. Percent who have children under 18 years of age	58%	73
2. Percent who have children in the following programs:		
Head Start/Preschool	8%	6
School	70%	51
Both Head Start/Preschool and School	7%	5
None of the above	15%	11
3. Percent who have at least one child under age 5 in the home	43%	34
4. Percent who have at least one child age 5-11 in the home	53%	42
5. Percent who have at least one child age 12-18 in the home	62%	49

Parents were asked a series of questions about their involvement with their children who live with them (see **Table 33**). The expectations that parents have for their child's progress in school and the parent's perceptions of how well the child is doing in school are very high. For instance, all parents expect their children to receive a high school diploma. About 80 percent of the parents are satisfied with their children's behavior in school; close to 97 percent report that their children like school most of the time; and about 85 percent of the parents are satisfied with how their children are doing with homework. These expectations and general ratings of satisfaction are very high.

When parent's behaviors are examined, however, more variation appears. For instance, 80 percent of the parents report that they often talk to their children about school; about 65 percent sometimes or often help their child with homework. Over 78 percent of the parents called or visited their child's teacher in the last year, but only 47 percent attended a school activity other than sports. When asked for what reason they called or visited the teacher, 55 percent reported that it was to check on the child's progress while 73 percent said that they would call or visit if there was some problem with the child's school work or behavior. Twenty-three percent of parents with children under 18 said they were members of their local parent-teacher organization or association.

Everyday literacy activities with children are even more varied. About 31 percent of parents regularly report reading books to children; on the other hand, about 31 percent also report never reading books to children. The same pattern holds with telling your child stories:

about 23 percent regularly tell stories, but over 33 percent report never telling stories to their children.

The findings on parental involvement in this study can be compared with the findings of a national survey of 1,148 adults, sponsored by the national Parent Teacher Association and Newsweek (Finney, 1993). Of the respondents in this survey, 97 percent of parents expect their children to graduate from high school as compared to 100 percent of parents in our study. Ninety five percent of parents talk to their children about school as compared to 80 percent in our study. Forty five percent of parents in the national survey help their children with homework every day, as compared to 40 percent of parents in our study who often help their children with homework. In the national survey, 53 percent of all parents, and 38 percent of the low income parents belong to a parent group at school, such as PTA, PTO, or Booster Club compared with 23 percent of parents in our study. Forty seven percent of parents with young children read to them daily, as compared to 31 percent of the ABE parents with children under 18 who read to their children (Finney, 1993). Thus, in spite of their very low literacy levels, the parents in this study are quite comparable to the parents in the national survey in terms of expectations for and amount of involvement with their children's education.

Table 33.

Parental Involvement with School and Literacy Activities of Children	Percent	Number
1. Percent who in the last month helped their children with school:		
Never	18%	10
Rarely	16%	9
Sometimes	25%	14
Often	40%	22
2. Percent who in the last month talked with their children about school:		
Never	0	0
Rarely	5%	3
Sometimes	15%	8
Often	80%	44
3. Percent who in the last year visited or called their children's teacher	78%	43
4. Percent who visited or called the teacher to check on their child's progress	55%	31
5. Percent who visited or called the teacher due to problems with their child's behavior or school work	73%	41
6. Percent who attend school activities other than sports	47%	26
7. Percent for whom children like school most of the time	96%	54
8. Percent satisfied with how children are doing with schoolwork	85%	45
9. Percent satisfied with children's behavior in school	80%	44
10. Percent who expect their children to receive a high school diploma	100%	59
11. Percent reading books to children:		
Never	31%	20
Rarely	0	0
Sometimes	38%	25
Regularly	31%	20
12. Percent telling children stories:		
Never	33%	22
Rarely	9%	6
Sometimes	35%	23
Regularly	23%	15

Table 34 presents evidence of parental involvement in school and literacy activities with children, tabulated separately for males and females. On some of these activities, females are clearly more involved with children than males. For instance, 51 percent of the females often helped children with homework, while only 23 percent of the males did so. About 88 percent of the females visited or called their children's teacher in the last year, while only 64 percent of the males visited or called teachers. Females also read books to their children more of the time than males: 78 percent of the females sometimes or regularly read books versus 54 percent of the males.

Table 34

Parental Involvement by Gender	Number and Percent of Females	Number and Percent of Males
1. Percent who in the last month helped their children with school:		
Never	3 (9%)	7 (32%)
Rarely	5 (15%)	4 (18%)
Sometimes	8 (24%)	6 (27%)
Often	17 (51%)	5 (23%)
2. Percent who in the last month talked with their children about school:		
Never	0	0
Rarely	2 (6%)	1 (4%)
Sometimes	3 (9%)	5 (23%)
Often	28 (85%)	16 (73%)
3. Percent who in the last year visited or called their children's teacher	29 (88%)	14 (64%)
4. Percent who attend school activities other than sports	17 (52%)	9 (41%)
5. Percent reading books to children:		
Never	9 (22%)	11 (46%)
Rarely	0	0
Sometimes	17 (41%)	8 (33%)
Regularly	15 (37%)	5 (21%)
6. Percent telling children stories:		
Never	13 (32%)	9 (36%)
Rarely	3 (7%)	3 (12%)
Sometimes	15 (37%)	8 (32%)
Regularly	10 (24%)	5 (20%)

On other variables, however, males and females are equally active in school and literacy activities. Ninety four percent of the females and 96 percent of the males either sometimes or often talked with their children about school in the last month. Approximately half of both groups attended school activities other than sports. Finally, a little over half of each group seem to regularly tell their children stories.

The percentage of parents involved in school and literacy activities of their children also varies according to the age of the child, with parents being more involved with their younger children.. In **Table 35**, the question, "How often do you help your child with school work" is broken down by the age of the child in the home. Eighty seven percent of parents with children under 5 sometimes or often help with homework; 76 percent of parents with children ages 5-11 help with schoolwork; and 59 percent of parents with older children (ages 12-18) help them with schoolwork.

Table 35.

Parental involvement with school work	Ages of Children in the Home:		
	Under 5	5-11	12-18
1. # and % who **never** help children with school work	1 (6%)	4 (11%)	9 (23%)
2. # and % who **rarely** help children with school work	1 (6%)	5 (13%)	7 (18%)
3. # and % who **sometimes** help children with school work	2 (12%)	11 (30%)	12 (31%)
4. # and % who **often** help children with school work	12 (75%)	17 (46%)	11 (28%)
Total number of parents	16	37	39

Note: parents may have children in more than one age group

(v). Comparison of Participants with Children and those without Children on Major Demographic Variables.

The next three sections compare participants who have children under 18 with those who do not. Just as was done with employment and marital status, the aim of these sections is to examine the ways in which children might affect one's personal and social situation.

From **Table 36**, however, it can be seen that there are almost no differences on demographic variables between participants who have children and those who do not. The only exception is gender: those with children under 18 are more likely to be females (63 percent versus 37 percent males) than those without children (56 percent males to 44 percent females). In terms of the variables in which the two groups are similar: there are more blacks than whites in both groups; very few participants report health problems, regardless of whether

they have children; the average age for both groups is in the mid-thirties; the average grade completed is a little above eighth grade; and the western and eastern regions of the State account for most of the participants.

Table 36.

Major Variables	Children Under 18	No Children Under 18	Significance Test
1. Gender			
Male	27 (37%)	30 (56%)	
Female	46 (63%)	24 (44%)	χ^2=4.33*
2. Race			
White	29 (41%)	22 (42%)	
Black	41 (59%)	31 (58%)	χ^2=0.00
3. Do you have any major physical or health problems at this time?			
Yes	19 (27%)	15 (28%)	
No	51 (73%)	38 (72%)	χ^2=0.20
4. Average Age	32.68	36.25	t=1.40
5. Average Grade Completed	8.87	8.25	t=-1.29
6. Region			
East	24 (34%)	15 (28%)	
Middle	6 (9%)	5 (9%)	
West	40 (57%)	33 (62%)	χ^2=0.50

*p < 0.05

(vi). Comparison of Participants with Children and those without Children on Family/Homelife Related Hypotheses.

Children do seem to make a difference, however, in where one lives and how husbands and wives tend to relate to one another. From **Table 37**, about 83 percent of parents with children either own or rent their home; only about 64 percent of those people without children own or rent. The other 36 percent of people without children tend to have other living arrangements such as living with a relative.

In terms of rating how they feel about their spousal relationship (for those participants with children who are also married), most participants have a good relationship with their spouse regardless of whether they have children. If they do have children, however, they tend to have more arguments with their spouse, and to not feel quite as satisfied with their marriage as those participants who do not have children.

Table 37.

Family/Homelife-related Hypotheses	Children Under 18	No Children Under 18	Significance Test
1. Do you own your home, rent, or have some other arrangement?			
Own	27 (39%)	13 (24.%)	
Rent	31 (44%)	21 (40%)	
Other	12 (17%)	19 (36%)	χ^2=6.17*
2. I have a good relationship with my spouse? (Scored on a five-point scale--the higher the score, the better the perceived relationship).	4.21	4.58	t=1.65
3. How often do you have arguments with your spouse? (Scored on a four point scale--a high score indicates less frequent arguments).	2.28	3.17	t=2.90**
4. How do you feel about your marriage? (Scored on a five-point scale--the higher the score, the better the feelings about the marriage).	4.14	4.92	t=3.33**
5. How many adults live in your home, self-included?	1.94	2.56	t=2.61*
6. Have you moved in the last year?			
Yes	22 (30%)	21 (39%)	
No	51 (70%)	33 (61%)	χ^2=1.06

**p < 0.01; *p < 0.05

(vii). Comparison of Participants with Children and those without Children on Life Satisfaction Indices.

This section compares participants with children and those without children on the five Life Satisfaction indices used throughout this report. These comparisons are presented in the following tables: Community Satisfaction (**Table 38**); Personal Satisfaction (**Table 39**); Activism/Efficacy (**Table 40**); Political Activism (**Table 41**); and Religion (**Table 42**). Scanning the tables reveals no significant differences on any of the variables or scales. In other words, participants with children and those without children seem to be at equivalent levels on all of the indices. Both groups are equally happy with their community; are satisfied with their family and friendships; are equally unhappy about their finances; have moderate levels of involvement in community activities; feel very hopeful about the future; and are quite satisfied with their religion.

Table 38.

Community Satisfaction Factors	Children Under 18	No Children Under 18	Significance Test
1. Overall community satisfaction	z=-0.04	z=0.04	t=-0.76
2. My community has good quality public schools.	3.31	3.08	t=-1.15
3. My neighborhood is a safe place to live.	3.34	3.52	t=0.75
4. I am satisfied with my community.	3.43	3.69	t=1.22
5. How often do you use the public library?	1.84	1.90	t=0.32
6. How do you feel about your house/apartment?	3.87	3.89	t=0.06
7. How do you feel about your city/neighborhood?	3.46	3.47	t=0.06
8. How do you feel about your community?	3.59	3.75	t=0.72
9. How do you feel about the national government?	2.71	3.06	t=1.47

Table 39.

Personal Satisfaction Factors	Children Under 18	No Children Under 18	Significance Test
1. Overall personal satisfaction	-0.04	0.02	t=0.53
2. How do you feel about your hobbies?	3.65	4.04	t=1.39
3. How do you feel about your family life?	4.37	4.28	t=-0.44
4. How do you feel about your friendships?	4.17	4.14	t=-0.16
5. How do you feel about your health?	3.93	3.88	t=-0.19
6. How do you feel about your finances?	2.52	2.94	t=1.53
7. How do you feel about your life in general?	4.16	4.19	t=0.16

Table 40.

Activism/Efficacy Factors	C ..ıren Under 18	No Children Under 18	Significance Test
1. Overall activism/efficacy	z=0.01	z=0.01	t=0.06
2. How often do you pay bills yourself?	3.20	3.21	t=0.04
3. How often do you talk to neighbors?	3.09	3.21	t=0.65
4. How often do you attend community meetings?	1.71	1.70	t=-0.05
5. How active are you in clubs and organizations?	1.07	0.98	t=-0.54

Table 41.

Political Activism Factors	Children Under 18	No Children Under 18	Significance Test
1. Overall political activism	z=-0.05	z=0.05	t=0.79
2. I feel hopeful about the future.	4.06	3.92	t=-0.74
3. As a citizen I can help bring about needed change in government.	3.43	3.72	t=1.53
4. How often do you talk politics with friends and family?	1.88	2.06	t=0.88

Table 42.

Religion	Children Under 18	No Children Under 18	Significance Test
1. How do you feel about your religion?	4.09	4.42	t=1.61

CONCLUSIONS

Marriage: In our study, more of the married people were white and male, and more of the unmarried participants were black and female. Both gender and race can be expected to impact on many other factors. Married participants were also more likely to have children than unmarried, although almost half of the participants with children under 18 were not married.

In the previous section we noted that marriage is a factor in self esteem that works differently for men and women -- for men, marriage increases self esteem, and for women it decreases self esteem. Here we also found that marriage is a factor in two of the life satisfaction indices: personal satisfaction and community satisfaction. Married people scored higher on both scales.

Inter-generational literacy: Our study looked at inter-generational patterns of schooling in order to explore the concept of an "inter-generation cycle of illiteracy." Our findings can only be suggestive at this stage, and not definitive, but seem to indicate that there is not a strong inter-generational cycle. When we look only at participants in ABE programs, and ask about their parents' high school graduation rates, we might believe there is such a cycle, because few of their parents graduated. However, when we take into account the siblings of the ABE participants, we find high school graduation rates that are quite close to the overall rates in Tennessee for adults.

We did find that parental schooling level seems to influence children's schooling level. Siblings on the whole were most likely to have graduated from high school if both parents did so, and were least likely to have graduated when neither of their parents had graduated. We believe that parents are only one influence among a number of potential factors, including the community context (the value placed on education, how common it is to graduate from high school, the attitudes of one's peers toward school) as well as individual factors (learning disabilities, economic demands, teen pregnancy). Family context plays a role, but how these factors interact requires more research. This is an issue we will follow further during our longitudinal study, especially in the qualitative components.

Children: Over half of the participants had children under 18, and 60 percent have at least one child under 18 living in their home (whether their own child or others). We asked those who had children living in their home who are in school or pre-school to answer questions about their involvement with those children's schools/pre-schools.

Despite the fact that most of the participants in our study had not graduated from high school, they all expected their children to graduate. The expectation is probably unrealistic, given the dropout rates in the communities in which they live. These parents also have generally positive perceptions of how their children are doing in school: 80 percent are satisfied with their children's behavior in school; 97 percent report that their children like

school most of the time; 85 percent are satisfied with how their children are doing with school work.

When we asked about these parents' behaviors in relation to their children's schooling, activity was much lower than expectations, but nevertheless, substantial involvement with children and school is reported. For example, 31 percent of the parents reported reading regularly to their children -- given their own reading levels (all below grade 5.9) this represents a considerable commitment. Eighty percent of parents report talking with their children about school. Forty percent help their children with their homework -- and since 62 percent of these parents have children above sixth grade, this again represents a substantial commitment.

These parents are also actively involved in their children's schools. Seventy eight percent reported that they had called or visited their child's teacher sometime during the last year. Forty seven percent attended a school activity other than a sports event.

Taken together, the data suggest that these are parents who care about and are involved in their children's education, even though they may lack the skills to help with specific tasks.

Impact of being a parent: We might expect that having children creates ripples on much of the rest of one's life. In fact, we found few significant differences between respondents with and without children. Perhaps the most significant area of difference is in relationships with one's spouse. Most married participants reported an overall good relationship with their spouse, and the presence of children did not affect this. However, respondents with children were more likely to say they often have arguments with their spouse, and were less likely to be satisfied with their marriage. Married readers can draw their own conclusions.

Implications for the longitudinal study: As we track participants over time, we will be looking especially at changes in marital relations and at relationships with their children. We expect literacy program participation to have an impact on social relations of all kinds, and especially marital relations. We may also expect that parents will have more skills to help their children in schoolwork. Their present involvement with schooling and homework may have been over-reported, and this too may change over time.

4. FINDINGS

E: HEALTH

KEY FINDINGS

This section examines the health and physical conditions of ABE participants. It also includes a comparison between participants with health problems and those without health problems. The major findings are as follows:

- About 28 percent of participants reported major physical or health problems at the time of the initial interview.
- About 14 percent report that their health might constitute a potential barrier to making progress in an ABE program.
- Twenty-two percent report no health coverage. Of those with health coverage, programs vary between Medicaid, Medicare, private health insurance, and employer-paid health insurance.
- There are no major differences between those who have health problems and those who don't due to gender, marital status, race, or educational level.
- People with health problems are older (39 on average) than those without health problems (33 on average).
- There are no differences on the five Life Satisfaction Indices between people who have health problems and those who don't, although there are differences in self esteem scores.

COMPARATIVE DATA

Earlier outcomes studies have not explored health status of ABE participants, so we know little about their health conditions or their health coverage. Nevertheless, we might expect that health conditions would have a significant impact on ability to persist with an ABE program and on potential outcomes such as employment. We might also expect that such issues as health insurance coverage would be subject to change over time with other literacy-related changes such as employment gains.

HEALTH RESULTS

This section of the Longitudinal Study Year One report investigates the health and physical conditions of Adult Basic Education participants. This section is divided into three parts:

- **Descriptive Statistics on Health-Related Issues.** A portrait of the overall health and physical condition of Adult Basic Education participants is presented in this section, including percentages on health problems, the types of health insurance, and the relationship of health to work.

- **A Comparison of Participants with Health Problems and those without Health Problems on Major Variables.** This section explores whether health problems are related to gender, marital status, race, children, age, educational level, or region of the State.

- **Comparison of Participants with Health Problems and those without Health Problems on Life Satisfaction Indices.** This section compares people with and without health problems on the five life satisfaction indices: (1) Community Satisfaction; (2) Personal Satisfaction; (3) Activism/Efficacy; (4) Political Activism; and (5) Religion.

(i). Descriptive Statistics on Health-Related Issues.

About 28 percent of our participants reported major physical or health problems at the time of the initial interview (see **Table 43**). As was seen in the section on self-esteem, people with major health problems have lower self-esteem. Health problems also present obstacles in other aspects, as is seen in Table 1. For instance, 9 percent of the unemployed participants report that they are unable to work due to their health condition. Twelve percent of all participants report that their health regularly keeps them from doing things that they want to do. And close to 19 percent of all participants feel displeased with their health conditions. These results have consequences for participation in Adult Basic Education classes. Fourteen percent of our sample note, in the initial interview, that their health represents a potential barrier to making progress in an ABE program.

Table 43 also presents the types of health coverage that participants report. Twenty-two percent of all participants report having no health coverage. The other types of coverage are varied: 41.5 percent have Medicaid; 10 percent have Medicare; 9 percent have some type of private health insurance; and 24 percent report employer-paid health insurance. For those participants who do have some type of medical insurance, it seems that most covers them, their spouse, and their children or dependents.

Finally, **Table 43** presents information on how often participants seek medical or dental checkups. Sixty percent of our sample report having a family doctor. Thirty-nine percent visit the local public health clinic. A majority of participants only go to the dentist when needed. Of those people who have children, 87 percent take their children to the doctor or public health clinic for shots and regular check-ups. Finally, a little smaller percentage, 66 percent, take their children to the dentist for regular checkups.

Table 43.

Health-related Variables	Percent	Number
1. Percent who have major physical or health problems at this time	28%	37
2. Percent who have a family doctor	60%	79
3. Percent who visit the local public health clinic	37%	51
4. Percent who take children to the doctor or public health clinic for shots and regular check-ups	87%	60
5. Percent going to the dentist:		
Never	17%	21
Only when needed	54%	68
Once a year	12%	15
Every six months	15%	19
6. Percent who take children to the dentist for regular checkups	66%	44
7. Percent who have for themselves or for their family members:		
No health coverage	22%	29
Medicare	10%	13
Medicaid	41.5%	54
Private health insurance	9%	12
Employer-paid health insurance	24%	31
8. For those who have medical insurance, Medicare or Medicaid, who in the family is covered?		
Self	94%	88
Spouse	81%	34
Children or other dependents	97%	62
9. Percent employed who are offered health insurance as a job benefit	86%	25
10. Percent for whom health represents a potential barrier to making progress in the ABE program or attending class	14%	18
11. Percent unemployed who are unable to work due to a health condition	9%	8
12. Percent agreeing or strongly agreeing with the statement "I feel pretty healthy most of the time."	85%	113
13. Percent for whom their health regularly keeps them from doing things they want to do	12%	16
14. Percent who feel displeased or very displeased with their health	18.5%	24

(ii). A Comparison of Participants with Health Problems and those without Health Problems on Major Variables.

This section examines participants with and without health problems to see if they differ on major demographic variables. As can be seen from **Table 44**, the only major variable that seems to differentiate the two groups is age: participants with health problems tend to be a little older (almost 40 on average) than those without health problems (averaging about 33). Otherwise, the comparisons are very similar to the statistics and the averages for the overall sample. For instance, both groups have slightly more females than males; more not married than married; more black than white; more children under 18; tend to average about an eighth grade education; and are split mostly between the eastern and western portions of the State.

Table 44.

Major Variables	Health Problems	No Health Problems	Significance Test
1. Gender			
Male	14 (37.84%)	46 (47.92%)	
Female	23 (62.16%)	50 (52.08%)	χ^2=1.10
3. Marital Status			
Married	17 (45.94%)	38 (40.00%)	
Not Married	20 (54.05%)	57 (60.00%)	χ^2=0.39
2. Race			
White	13 (36.11%)	39 (41.94%)	
Black	23 (63.89%)	54 (58.06%)	χ^2=0.37
3. Do you have any children under 18?			
Yes	20 (57.14%)	53 (57.61%)	
No	15 (42.86%)	39 (42.39%)	χ^2=0.002
4. Age	39.39	32.86	t=-2.36*
5. Education	8.22	8.71	t=0.97
6. Region			
East	12 (32.43%)	28 (29.17%)	
Middle	3 (8.11%)	8 (8.33%)	
West	22 (59.46%)	60 (62.50%)	χ^2=0.14

*p < 0.05

(iii). Comparison of Participants with Health Problems and those without Health Problems on Life Satisfaction Indices.

Do participants with health problems differ from those without health problems on any of the five life satisfaction indices? **Tables 45** through **49** present information, respectively, on indices related to Community Satisfaction, Personal Satisfaction, Activism/Efficacy, Political Activism, and Religion.

The two groups do not seem to differ on any of the variables related to Community Satisfaction, as is seen in **Table 45**. Both groups seem equally satisfied with their community, their neighborhood, their public schools, and their city. This same picture holds when examining both groups on Personal Satisfaction factors, in **Table 46**. Except for the one obvious difference on the how do you feel about your health question (people with no problems obviously feel better), the other variables indicate no differences. Both groups are equally content with their hobbies, their family life, their friendships, and life in general. Both groups are equally discontent about their finances. From **Table 47**, Activism/Efficacy variables paint the same picture. Both groups seem to pay biils themselves, talk to neighbors with the same frequency, don't often attend community meetings, and belong, on average, to about one organization or club. Overall Political Activism, in **Table 48**, indicates that both groups feel equally hopeful about the future and feel that they can bring about needed change in government. Curiously, people with health problems tend to talk politics more with family and friends than those without health problems. Finally, both groups are equally positive about their Religious Beliefs, as is seen in **Table 49**.

Table 45.

Community Satisfaction Factors	Health Problems	No Health Problems	Significance Test
1. Overall community satisfaction	z=-0.05	z=0.02	t=0.66
2. My community has good quality public schools.	3.17	3.31	t=-0.64
3. My neighborhood is a safe place to live.	3.29	3.47	t=0.71
4. I am satisfied with my community.	3.74	3.49	t=-1.28
5. How often do you use the public library?	1.69	1.93	t=1.19
6. How do you feel about your house/apartment?	3.61	4.02	t=1.55
7. How do you feel about your city/neighborhood?	3.31	3.55	t=0.87
8. How do you feel about your community?	3.69	3.67	t=-0.09
9. How do you feel about the national government?	2.75	2.86	t=0.41

Table 46.

Personal Satisfaction Factors	Health Problems	No Health Problems	Significance Test
1. Overall personal satisfaction	z=-0.18	z=0.07	t=1.89
2. How do you feel about your hobbies?	4.19	3.71	t=-1.83
3. How do you feel about your family life?	4.24	4.38	t=0.65
4. How do you feel about your friendships?	4.09	4.22	t=0.62
5. How do you feel about your health?	3.03	4.27	t=5.21**
6. How do you feel about your finances?	2.36	2.30	t=1.48
7. How do you feel about your life in general?	4.00	4.27	t=1.26

**$p < 0.01$

Table 47.

Activism/Efficacy Factors	Health Problems	No Health Problems	Significance Test
1. Overall activism/efficacy	z=0.07	z=-0.01	t=-0.64
2. How often do you pay bills yourself?	3.33	3.12	t=-0.96
3. How often do you talk to neighbors?	3.17	3.18	t=0.04
4. How often do you attend community meetings?	1.58	1.75	t=0.81
5. How active are you in clubs and organizations?	1.08	1.01	t=-0.41

Table 48.

Political Activism Factors	Health Problems	No Health Problems	Significance Test
1. Overall political activism	z=0.08	z=-0.03	t=-0.81
2. I feel hopeful about the future.	3.83	4.06	t=1.22
3. As a citizen I can help bring about needed change in government.	3.69	3.52	t=-0.85
4. How often do you talk politics with friends and family?	2.27	1.84	t=-2.06*

*p < 0.05

Table 49.

Religion	Health Problems	No Health Problems	Significance Test
1. How do you feel about your religion?	4.41	4.18	t=-1.02

CONCLUSIONS

Twenty eight percent of participants reported that they have major physical or health problems at this time, although 12 percent reported that their health regularly keeps them from doing things they want to do. Except in the areas of age, self esteem and employment, there are no major differences between those with or without health problems. However, 14 percent report that they expect that their health might constitute a barrier to their making progress in an ABE program, which might also impact on potential long-term outcomes.

Although health condition impacts on self esteem, it does not appear to impact on life satisfaction, as measured by the indices.

Twenty two percent of participants reported that they have no health insurance coverage from any sources, including Medicare and Medicaid. Sixty percent have a family doctor, and most of the rest use the public health clinic for health care. Over 70 percent report going to the dentist "never" or "only when needed," (although 66 percent of those with children report taking their children to the dentist for regular checkups).

Overall, the baseline study shows a minority of participants who have health problems which might impact on the potential outcomes of participation in ABE. There is great room for improvement in health coverage, as in (related) preventive care practices including regular checkups. Literacy on its own may not be the defining factor in a person's health status or ability to engage in healthy behaviors, but it may have an effect through other factors such as employment and income.

5. CONCLUSIONS

This report on Year One of a longitudinal study of adult literacy participants in Tennessee describes the first cohort of participants. Baseline interviews were conducted between October, 1991 and May, 1992 with 133 adults who were new enrollees in eight ABE program sites across the state. Sites were selected to be representative of both rural and urban areas in each of the three main regions of Tennessee -- east, middle and west. Participants were eligible for the study if they were new enrollees who had not been in the program in the previous year, and if their reading level as assessed by the state-mandated ABLE test was 5.9 or lower. In the smaller sites almost all new enrollees were interviewed, in the larger sites a selection was made by interviewers. Researchers do not claim to have a random sample of all eligible ABE participants, but rather to have a sample which is fairly typical of students at these sites.

The major purpose of the study is to track these individuals over a period of time to measure changes in their quality of life. This Year One report does not address change. It analyzes data collected in baseline interviews. These give us "snapshots" of this group of individuals as they were when they entered the program -- their jobs and economic status, their self esteem, their marital status and involvement with their children, their community and political activity and their health status. As such, the study gives us a more complete picture of Tennessee literacy participants than we have ever had before.

This report does not simply describe participants, but also analyzes the interactions between different areas of their lives and feelings. We found significant inter-relationships between at least some of the following: gender, marital status, employment, self esteem, physical health, and life satisfaction as measured in several ways. Some of these factors obviously cannot be impacted by participation in a literacy program (gender, physical health). Some may be affected, directly or indirectly. Since having a job is significantly associated with higher self esteem and with greater life satisfaction, if literacy programs enable unemployed participants to get jobs we should expect to see wide-ranging changes in quality of life. The baseline study enables us to create hypotheses to be tested in the years to come as we track this group over time.

As we follow these individuals, we will also be aware of their context. The economic context is of prime importance: when there are no jobs, gaining some literacy skills may not help an individual become employed. When average incomes are falling, gaining literacy skills may not increase one's income. When the numbers of "working poor" increase, dependence on government assistance in the form of food stamps and other services may not decrease. Just as a rising tide lifts all boats, so does a falling tide make it harder for an individual to rise. There are other contextual factors of importance to this group: national health insurance, for example, a law suit that seeks to redistribute state school funding from urban to rural schools, drugs and violence in many urban and even small-town neighborhoods.

We will also be exploring the meaning of the changes for the participants. Through qualitative interviews with some participants, we will learn more about what is happening in their lives, how they see factors impacting on them, and the meaning of life changes.

The participants

The group of ABE-1 participants interviewed is 55 percent urban, 55 percent female, and 58 percent black. Their average age is 34, and less than half were married at the time of the interview. More than half had children under the age of 18. Eight percent had graduated from high school, despite their current reading level of under 6th grade. The average school grade completed was eighth grade. The reasons they gave for leaving school include not doing well in school (21 percent), not liking school (15 percent), to get a job (23 percent), because of pregnancy or medical reasons (17 percent) and to get married (7 percent). The pattern seems similar to that of other school dropouts, who leave for three main reasons: because they have problems in school, to get a job (especially males) and because of pregnancy (females).

Few people identified getting a job as their primary reason for enrolling in ABE: most wanted simply to further their education and to get a better quality of life. Over a third had previously enrolled in some form of education or training since leaving school, half of these in a basic skills program, the rest in vocational or other training.

Employment, unemployment and income

Employment: One third of participants were employed: almost three quarters full-time, and 90 percent in permanent rather than temporary positions. However, almost everyone was in a low-skilled or semi-skilled job, ranging from assembly line work to food services. Some of the jobs included: painter, fast food cashier, dish washer, nurse's aide, sewing machine operator, furniture frame builder, senior companion. Higher skilled jobs included heavy equipment operator and warehouse manager. Manufacturing was the single biggest industry, employing over a third of the workers interviewed. This is rather higher than the state average for manufacturing, which was 23 percent in 1991, but quite typical of lower skilled jobs across the state.

Average hourly pay was $6.07 per hour, substantially above minimum wage, and not strikingly low in a state that specializes in low wage employment. Only 57 percent were covered by an employer health plan, only 38 percent by a retirement plan, and 45 percent by sick leave. The end result for many people seems to put them at the margins: any crisis in health, job loss, getting older can wreak havoc with their lives because they have so few safety nets. Twenty percent of employed participants receive food stamps, and 46 percent of the households of the working participants receive some type of government assistance -- they must be numbered among the "working poor." Although three quarters like their present job, and 86 percent felt they have a lot of responsibility at work, 61 percent of those employed felt that with their present skill level they have no chance of promotion.

Unemployment: The unemployed consist of two main groups: those who are looking for work (46 percent of the unemployed, 30 percent of the total) and those who are not looking (because they are homemakers, disabled, retired or discouraged). Sixty percent of the unemployed had worked during the previous five years, either part-time or full-time. Asked why they had found it hard to get a job, a majority (59 percent) blamed their own lack of education and training, and almost half pointed to the scarcity of jobs. Other problematic factors included their age, transportation problems and their inability to fill out a job application.

The unemployed, not looking group tends to be women, black and not married. Forty percent of this group have major physical problems, more than half have children under 18.

Life satisfaction: Employment seems to be an important factor in how people feel about themselves and about their lives. We found higher self esteem levels associated with having a job and with job satisfaction, though not with levels of pay. Employed participants also feel better on the whole about other aspects of their lives. They have higher personal satisfaction, including feelings about hobbies, family life, friendships, health, finances and their life in general. Employed participants also have higher levels of community satisfaction, including feelings about their neighborhood, its safety, about their home and about their larger community. There were no differences between employed and unemployed participants in terms of other life satisfaction indices, including activism/efficacy, political activism and religion.

Income: Incomes are low: 43 percent reported that their total household income including all payments last year was under $5,000. Only 10 percent were at the other end of the scale, over $30,000. Because of these low incomes, only 27 percent of respondents did not receive some kind of government assistance, including food stamps (48 percent), Aid to Families with Dependent Children (24 percent), Supplemental Security Income (15 percent) and Social Security (11 percent). Only four percent were receiving unemployment pay, although 30 percent of the total were unemployed and looking for work.

Income does not seem to be a significant factor affecting either self esteem or life satisfaction.

Self esteem

ABE practitioners usually perceive that students who enter their programs are low in self esteem. Indeed, one of the major benefits of ABE programs, practitioners believe, is boosting students' self esteem, thus enabling people to act on problems in their lives. Hard evidence for this belief is not in: Beder's summary of self esteem research in this population suggests the findings are mixed, and most of the research inadequately conducted (Beder, 1991). Nevertheless, it is an article of faith for many practitioners, and is perhaps still true.

This study does not at this time lend conclusive weight to this belief, although we do have some findings to support it. Measured on a five point scale, the average self esteem score of participants in our study is 3.64, above the mid-point. However, when we compared this

score with that of two groups of University of Tennessee students we found that it is significantly lower than the 3.91 and 3.97 scores of these two groups. Although convenient, these are not ideal comparison groups since they are dissimilar in terms of employment. age, probably marital status and social class. Some of these factors were found in our study to impact self esteem significantly. Other comparisons are needed to confirm the tentative finding that participants are indeed somewhat lower in self esteem.

What is clearly established by our study is that self esteem is a complex construct which is inter-related with other facets of one's life. Employment, for example, is significantly correlated with higher self esteem. Gender and marital status inter-relate in their association with self esteem: while unmarried men and women have similar self esteem levels, married men have significantly higher self esteem, but married women have significantly lower self esteem. Better relationships with one's spouse and better feelings about one's marriage also are associated with higher self esteem.

Physical health is another life factor inter-connected with self esteem. Having major health or physical problems is likely to lower one's self esteem. Likewise, receiving government assistance in any form is associated with lower self esteem. Although income per se does not appear to be related, home ownership is associated with higher self esteem. And for men, though not for women, not having health insurance seems to be associated with lower self esteem.

While educators cheerfully talk about raising self esteem as though we know what it is and how to impact it, psychologists have engaged in a lengthy debate about what self esteem is, and how to measure it. It is clear from our analysis that whatever is being measured by the Rosenberg Self Esteem Assessment is interrelated with life satisfaction measures. We found higher self esteem associated with higher levels of the life satisfaction indices of personal satisfaction, community satisfaction and political activism.

In a multiple regression analysis designed to identify the best predictors of self esteem among all the factors we found to be associated with it, we identified five major factors as the best indicators of self esteem: personal satisfaction, political activism, employment, no health problems and community satisfaction. Nevertheless, these factors between them accounted for only 26 percent of the variance in self esteem, indicating a still more complex construct not fully measured in this study. Clearly, more work remains to be done to explore more thoroughly the concept of self esteem in this population.

Marriage and family

Less than half the participants in our study were married, and for these, the average length of marriage was almost twelve years. More than half (58 percent) had children under 18, including almost half of the unmarried participants. Married participants are more likely to be white and male, unmarried are more likely to be black and female. Marriage seems to be a factor in self esteem, though in different ways for men and women. It is also a factor in

life satisfaction: married participants had higher levels of personal and community satisfaction.

Based on their own reporting, the parents we interviewed do not fit the stereotypes of low-literate parents who do not value education or participate in their children's schooling. Although most of the people we interviewed had not themselves graduated from high school, they all said they expected their children to graduate. The expectation may be unrealistic, given the high dropout rates in most Tennessee school systems. Participants also report generally high levels of satisfaction with their children's schooling.

These parents are apparently quite involved in their children's schooling. Eighty percent said they talk about school with their children regularly or sometimes. Close to that figure said they had called or visited their child's teacher during the last year. Forty seven percent had attended a school event other than sports, and 13 percent were active in the PTA.

Even though these parents' own skills are quite low, many are engaged in their children's education. Forty percent said they help their children with homework, and this rises to 87 percent of parents with younger children. Thirty one percent said they read to their children -- and this percentage may be higher for those who have younger children.

The "cycle of illiteracy" argument posits that parents who themselves lack literacy skills are likely to have children who are unsuccessful in school, drop out, and in turn have children who have difficulties with school work. Proponents of this perspective argue that children need exposure to texts in the home in order to successfully learn to read, and that texts may be limited when parents have low literacy skills. Although intuitively this position seems to have merit, it has not been substantiated by research. The parents we interviewed do have low literacy skills, and many said they often need to memorize things because they can't read well enough. But they do also seem to be involved with texts in various ways -- 79 percent say they regularly or sometimes read magazines, newspapers or books; 74 percent pay bills themselves, a third use the public library (especially likely if they are unemployed). Reading and writing on the job is also more common than one might expect: more than half of those who work said they need to work with numbers or write on the job, and over two thirds said they need to read.

Earlier research by the Center for Literacy Studies (1992) conducted for the Office of Technology Assessment, U.S. Congress involved in depth profiles of adults with low literacy skills. These studies revealed individuals who, despite their low literacy, make most of the same uses of literacy in everyday life as more literate adults. But although they use literacy for all of the purposes that the rest of us do, we found that their literacy activities are rather shallow and restricted. They may read newspapers, for example, but only certain familiar sections like sports scores or farm prices. They may use literacy to confirm information, but only occasionally look up words in a dictionary, use a map or a telephone directory.

These findings may well apply to this group of participants also. Although their everyday literacy activity is broad, it may be quite shallow. The impacts of this on their children are not well understood. These children are sometimes read to, they see their parents using reading and writing for particular purposes, and they do not live in a text-free environment. But they probably also do not receive the heavy dose of literacy at home that many more middle class and higher literacy families may provide. The long-range impact on their success at school is not clear and is an issue we will be following over time.

Although having children does not seem to impact significantly on most other areas of life, there is one finding of importance which we will also be following: the presence of children does seem to be associated with somewhat lower levels of satisfaction with marriage and somewhat higher levels of arguments with a spouse.

Health

Most studies of literacy and ABE participants have paid little attention to health issues. However, we might expect health conditions to have a significant impact on ability to persist with an ABE program as well as on positive outcomes in areas such as employment. We found that 28 percent of participants reported they have a major health or physical problem at this time. A lower proportion, 12 percent, reported that their health regularly or sometimes prevents them from doing things they want to do. Fourteen percent expected their health to be a potential barrier to making progress in their ABE program.

Health is associated with self esteem: participants with major health problems have significantly lower self esteem than those who do not. However, health does not appear to be associated with life satisfaction, as measured in the indices of personal and community satisfaction.

The ability of this group to receive good health care is questionable. Twenty two percent do not have health insurance or health care coverage from any source including Medicaid and Medicare. More than half of these are parents of children under 18. For this group even a small health problem has major consequences, and bigger problems -- cancer, an accident -- may be catastrophic. The impact of health conditions on outcomes from ABE will be an area of continuing interest in this research.

What we learned

Perhaps the most important thing we learned is the inter-relations between different aspects of a person's life. As we follow participants over time and track changes in their lives, we can expect every change to have implications for other aspects. If we were to try to construct an overall "quality of life" index, it would probably be a function of such matters as employment (having a job), health (being healthy), being independent (no government assistance payments), being in a good marriage (especially if you are male). Only some of these are even potentially able to be impacted by ABE participation and improved literacy skills. Some are very much affected by contextual factors -- unemployment rates, the mix of jobs available locally, provision of training opportunities, health care coverage.

We can't wait to see how these and other factors change over time and to explore the interactions and meanings of these changes. Contained in them will be many implications for ABE program development -- its linkage with job preparation, for example, in programs such as JOBS, its counseling elements, family literacy activities, and support for those with health problems or disabilities.

We have learned again what we already knew: that people are complex, that having low literacy skills is only one small part of their complex picture, and that our easy assumptions about our ability as educators to impact that complex picture are too facile. These are adults who are living their own lives, making their own decisions, dealing with many hardships, loving their children, being concerned about the same issues as the rest of us -- environment, safety, government, finances. We appreciate their willingness to share some of their lives with us.

APPENDIX 1

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APPENDIX 2

FREQUENCIES

Table 1. Demographics of Respondents

Demographics	%	#
1. Average age	34 Years	
2. Sex		
Male	45.1%	(60)
Female	54.9%	(73)
3. Race		
White	39.1%	(52)
Black	57.9%	(77)
Asian	0.8%	(1)
Hispanic	1.5%	(2)
Other	0.8%	(1)
4. Percent married	41.7%	(55)
5. Average length of marriage	11.7 Years	
6. Percent with children under 18	57.5%	(73)
7. Average grade completed	8th Grade	
8. Reason for leaving school		
Wanted to go to work	7.3%	(9)
Had to work for money	16.3%	(20)
Marriage	7.3%	(9)
Medical reasons/pregnancy	17.1%	(21)
Not doing well in school	21.1%	(26)
Doing okay but did not like school	14.6%	(18)
Family moved a lot	3.3%	(4)
Other	13.0%	(16)
9. Percent for whom:		
Mother graduated high school	25.7%	(28)
Father graduated high school	30.5%	(29)
Spouse graduated high school	29.5%	(13)

Table 2. Enrollment Information About Respondents

Enrollment Information	%	#
1. Reasons for enrolling in program		
To improve quality of life	29.3%	(39)
To further education	84.2%	(112)
To get a better job or more money	57.9%	(77)
For child-related reasons	12.8%	(17)
Forced to enroll	4.5%	(6)
2. Percent for whom the following represent potential barriers to progress in the program or to class attendance:		
Health problems	13.6%	(18)
Transportation problems	6.1%	(8)
Work conflicts	7.6%	(10)
Other barriers	6.8%	(9)
No barriers	62.9%	(83)

Table 3. Employment Information of Respondents

Employment Information	%	#
1. Percent employed	33.1%	(44)
2. Breakdown on employed:		
Full-time	72.7%	(32)
Part-time	25.0%	(11)
Other	2.3%	(1)
3. Percent employed who have permanent jobs	90.0%	(40)
4. Occupation		
Low-skilled	40.9%	(18)
Semi-skilled	56.8%	(25)
Skilled technical/technicians, craftspeople	2.3%	(1)
5. Industry		
Agriculture/mining	4.9%	(2)
Construction	7.3%	(3)
Manufacturing	34.1%	(14)
Transportation, communication, utilities	4.9%	(2)
Wholesale/retail trade	4.9%	(2)
Entertainment/recreational services	14.6%	(6)
Health tech services	2.4%	(1)
Protective services	2.4%	(1)
Government	12.2%	(5)
Other	12.2%	(5)
6. Percent satisfied with present job	74.4%	(32)
7. Percent who have a lot of responsibility at work	86.1%	(37)
8. Percent for whom, with present skill level, there is NO chance for promotion	61.4%	(13)

Table 4. Income Information of Respondents

Income Information	%	#
1. Average hours worked per week	38.8 Hours	
2. Average hourly pay	$6.07 /Hour	
4. Yearly household income		
Less than $5,000	43.0%	(43)
$5,000 - $9,999	20.0%	(20)
$10,000 - $14,999	10.0%	(10)
$15,000 - $19,999	7.0%	(7)
$20,000 - $24,999	8.0%	(8)
$25,000 - $29,999	2.0%	(2)
$30,000 or more	10.0%	(10)
5. Percent receiving the following types of government assistance:		
Food stamps	48.8%	(62)
Aid to Families with Dependent Children	23.6%	(30)
Unemployment pay	3.9%	(5)
Workers compensation	3.1%	(4)
Jobs Program allowance	3.1%	(4)
Supplemental Security Income (SSI)	14.8%	(19)
WIC	3.9%	(5)
Social Security	10.9%	(14)
None of the above	26.6%	(34)
6. Percent who have the following benefits available:		
Paid vacation	57.1%	(24)
Retirement plan	38.1%	(16)
Sick leave	45.2%	(19)
Health insurance plan	69.0%	(29)
No benefits	28.6%	(12)
7. Percent employed and covered by employer's health insurance	86.2%	(25)
8. Percent married and with spouse employed	48.2%	(27)

Table 5. Information about Unemployed Respondents

Unemployed	%	#
1. Percent unemployed	66.9%	(89)
2. Percent unemployed who are:		
Looking for work	46.0%	(40)
Not looking for work	34.5%	(30)
Unable to work due to health	9.2%	(8)
Homemakers	4.6%	(4)
Retired	5.7%	(5)
3. Percent unemployed who have worked in the past five years:		
Part-time	47.2%	(25)
Full-time	32.1%	(17)
Both part-time and full-time	20.8%	(11)
4. Percent who have found it difficult to find a job for the following reasons:		
Not enough education or training	60.0%	(24)
Unable to fill out job application	12.5%	(5)
Jobs are scarce	50.0%	(20)
Didn't like work, work conditions, pay, etc.	10.0%	(4)
Age	17.5%	(7)
Gender	5.0%	(2)
Transportation problems	22.5%	(9)
Childcare problems	5.0%	(2)
Other problems	10.0%	(4)

Table 6. Family and Home Life of Respondents

Family and Home Life	% #
1. Percent who have moved in the last year	33.3% (44)
2. Home	
Own	33.1% (44)
Rent	40.6% (54)
Other arrangement	26.3% (35)
3. Average number of adults in home	2.2 Adults
4. Average number of children in home	1.8 Children
5. Percent who, in the last month, have helped children with school work:	
Never	18.2% (10)
Rarely	16.4% (9)
Sometimes	25.5% (14)
Often	40.0% (22)
6. Percent who, in the last month, have talked with children about school:	
Rarely	5.5% (3)
Sometimes	14.5% (8)
Often	80.0% (44)
7. Percent who, in the last year, have visited or called teachers about children's progress:	
Not at all	21.8% (12)
One, two, or three times	41.8% (23)
Four or more times	36.4% (20)
8. Percent who feel they have a good relationship with their spouse	87.3% (48)
9. Percent of parents who attend school activities other than sports	47.3% (26)
10. Percent satisfied with children's school work	84.9% (45)
11. Percent who expect children to receive high school diploma	100.0% (59)
12. Average self-esteem of respondents (The self-esteem score is based on a five point scale with one being the low point and five being the high)	3.64

Table 7. Politics and Community Involvement of Respondents

Politics and Community Involvement	% #
1. Percent who are registered voters	60.9% (81)
2. Percent of registered voters who voted in last four years	80.0% (68)
3. Percent Involved in church	64.4% (85)
4. Percent Involved in P.T.A.	12.9% (17)
5. Percent Involved in social/sports groups	7.5% (10)
6. Percent NOT belonging to any club or organization	28.6% (38)
7. Percent who feel neighborhood is safe	63.4% (83)
8. Percent satisfied with public schools	53.0% (70)
9. Percent satisfied with community	70.3% (92)
10. Percent who worry about environmental problems	64.1% (84)
11. Percent who are hopeful about the future	82.7% (110)
12. Percent who feel they can bring about change in the government	63.2% (84)
13. Percent who feel public officials don't show enough concern for ordinary people	75.2% (100)

Table 8. Activities of Respondents

Activities	%	#
1. Percent who use public library	32.6%	(43)
2. Percent who read magazines, books or newspapers	78.7%	(103)
3. Percent who read books to children	69.3%	(45)
4. Percent who pay bills themselves	74.4%	(99)
5. Percent who need to memorize things because they can't read well enough	66.6%	(88)
6. Percent who attend community meetings	23.5%	(30)
7. Percent for whom health prevents activities	31.3%	(41)
8. Percent who talk politics with family and friends	37.7%	(49)
9. Percent who need to write on the job	59.4%	(22)
10. Percent who work with numbers on the job	59.4%	(22)
11. Percent who need to read to get work done	67.5%	(25)

Table 9. Physical Well Being of Respondents

Physical Well Being	%	#
1. Percent with major health or physical problems	27.8%	(37)
2. Percent who have a family doctor	59.8%	(79)
3. Percent who visit the local public health clinic	38.6%	(51)
4. Percent who take children for regular check-ups	87.0%	(60)
5. Percent who have:		
No medical insurance	22.3%	(29)
Medicare	10.0%	(13)
Medicaid	41.5%	(54)
Private health insurance	9.2%	(12)
Employer paid health insurance	23.8%	(31)

Table 10. Life Satisfaction of Respondents

Life Satisfaction	%	#
1. Percent very happy or happy with house/apartment	70.0%	(93)
2. Percent very happy or happy with city/neighborhood	60.9%	(81)
3. Percent very happy or happy with national government	30.0%	(39)
4. Percent employed who are very happy or happy with work	82.9%	(39)
5. Percent very happy or happy with hobbies	70.0%	(86)
6. Percent very happy or happy with religion	77.6%	(97)
7. Percent very happy or happy with marriage	85.2%	(46)
8. Percent very happy or happy with family	83.3%	(105)
9. Percent very happy or happy with friendships	79.1%	(102)
10. Percent very happy or happy with health	68.4%	(89)
11. Percent very happy or happy with finances	34.4%	(45)
12. Percent very happy or happy with life in general	77.6%	(101)

APPENDIX 3

QUESTIONNAIRE

office use only

Respondent ID _____
Quality Check _____
Date of Check _____

ABE-1 LONGITUDINAL STUDY: BASELINE INTERVIEW

Interviewer_____ County _____ Date _____

****

PLEASE CIRCLE THE NUMBER THAT CORRESPONDS WITH THE ANSWER GIVEN.

SECTION A: PERSONAL CHARACTERISTICS

1) **INTERVIEWER CIRCLE:** 1 male 0 female

2) What is your date of birth? _____

3) Where were you born?

1 this county
2 another county in Tennessee
3 another state in the United States
4 another country

4) What race do you consider yourself?

1 white; 2 black; 3 asian; 4 hispanic; 18 other

5) Are you currently: 1 married **[GO TO Q.6)**; 0 not married [GO TO Q.7]?

6) **[IF CURRENTLY MARRIED]** How long have you been married? _____

7) Do you have any children under 18? 1 yes; 0 no

8) What was the last grade of school you completed? _____
[IF GRADUATED HIGH SCHOOL, SKIP Q.9--GO TO Q.10]

9) What was the main reason you left school?
[READ ANSWERS AS PROMPTS IF NEEDED; CIRCLE ONE NUMBER]

1 Wanted to go to work
2 Had to go to work for money
3 Military service
4 Marriage
5 Medical reasons or pregnancy
6 Not doing well in school
7 Doing okay in school but did not like school
8 Family moved a lot
18 Other _____

10) **[ASK EVERYONE]** When were you last in school? 19__

[FOR EACH FAMILY MEMBER ASK Q.11. IF YES, ASK Q.12 AND Q.13.]

	11) Did your "_"leave school before receiving high school diploma?	12) Years of school completed **[APPROX]**	13) Was GED later received?
Mother	1 yes; 0 no; 19 DK		1 yes; 0 no
Father	1 yes; 0 no; 19 DK		1 yes; 0 no
Brother #1	1 yes; 0 no; 19 DK		1 yes; 0 no
Brother #2 **(IF MORE THAN 2 BROTHERS USE THE SEPARATE TABLE)**	1 yes; 0 no; 19 DK		1 yes; 0 no
Sister #1	1 yes; 0 no; 19 DK		1 yes; 0 no
Sister #2 **(IF MORE THAN 2 SISTERS USE THE SEPARATE TABLE)**	1 yes; 0 no; 19 DK		1 yes; 0 no
Spouse	1 yes; 0 no; 19 DK		1 yes; 0 no

14) What is the main reason you are enrolling in this program?

_____

_____

Why? **[PROBE RESPONDENT'S ANSWER]**

_____

_____

15) What do you see as potential barriers that will keep you from making progress as quickly as you would like or that would keep you from attending class?

1 health
2 diagnosed disability (emotional, mental, learning)
3 no home support
4 transportation problems
5 childcare problem
6 work conflict
7 no barriers
18 other _____

16) Aside from this program, are you currently taking any other kind of training or schooling?

1 yes **[ASK Q.17]** 0 no **[GO TO Q.18]**

17) **[IF YES]** What kind? _____

18) Have you enrolled in any other classes or programs since leaving school?

1 yes **[ASK Q.19]** 0 no **[GO TO Q.20]**

19) **[IF YES]** What program?

1 basic skills (reading)
2 vocational
18 other _____
When? _____
How long did you participate? _____

SECTION B: SOCIO-ECONOMIC BACKGROUND

20) Are you employed right now, either full-time or part-time?

0 NO, not employed **[ASK Q.21,22]** 1 YES, employed **[GO TO Q.25]**

21) Are you . . .

1 unemployed, looking for work
2 unemployed, not looking for work
3 unable to work due to health condition
4 homemaker
5 retired

22) Have you worked in the last five years?

1 yes 0 no

[IF YES]
1 Part-time ?
2 Full-time ?
3 Both part-time and full-time ?

[IF THE RESPONSE TO Q.21 WAS "UNEMPLOYED, LOOKING FOR WORK" (1) ASK Q.23, 24; OTHERS NOT EMPLOYED GO TO Q.40]

23) How long have you been looking for a job?
1 less than 6 months
2 6 months -- one year
3 over one year

24) What reasons have made it hard for you to find a job? **[READ LIST AS PROMPTS IF NECESSARY; CIRCLE NUMBERS OF ALL REASONS GIVEN]**

1 not enough education or training
2 unable to fill out job application
3 jobs are scarce
4 didn't like available work, working conditions, pay
5 race or nationality, racial discrimination
6 age (jobs open to younger people only, or jobs open to older people only)
7 sex (jobs open to men only, or to women only)
8 problems with transportation
9 problems with childcare
18 other _____
19 don't know

[IF EMPLOYED ASK Q.25-39; IF NOT EMPLOYED GO TO Q.40]

25) If employed, are you . . .

1 full-time (36+ hr/wk)
2 part-time (up to 35 hr/wk)
3 employed but not at work due to illness, vacation, temporary layoff, strike etc.
4 self employed, full-time
5 self employed, part-time

26) Is this a permanent or temporary job?

1 permanent
2 temporary

27) What is your job? What sort of work do you do?

_____

[INTERVIEWER: DO NOT READ LIST--CODE OCCUPATION AND INDUSTRY BASED ON ANSWER]

OCCUPATION:
5 Professional, Manager, Proprietors
(e.g. business owners employing more than 5 people, RNs)
4 White Collar
(e.g. secretaries, telephone operators, bookkeepers, mail carriers, retail-sales, clerks)
3 Skilled technical/technicians, craftspeople (e.g. automechanics, TV repairers, carpenters, electricians, LPNs, CNAs, x-ray technicians)
2 Semi-skilled
(e.g. assembly line workers, welders, truck/van drivers, cabdrivers, bartenders, food/restaurant workers: cooks and waiters/waitresses)
1 Low-skilled
(e.g. laborers, cleaners/janitors, farm laborers, dishwashers, hospital orderlies)

28) INDUSTRY:

1 Agriculture/mining
2 Construction
3 Manufacturing
4 Transportation, communication, public utilities
5 Wholesale/retail trade
6 Finance, business services (e.g. real estate, insurance, business machine repair)
7 Entertainment, recreational service (e.g. restaurant, motel)
8 Health tech services (e.g. hospital, nursing home)
9 Protective services (e.g. guards, police, firefighters)
10 Government
18 Other _____ _____

29) How many hours per week do you usually work? _____ hrs

30) What is your rate of pay? **[RECORD IN ANY OF THESE WAYS]**

Hourly $_____/hour
Part day $_____ per part day of _____ hours
Full day $_____ per 8 hour day
Weekly $_____ per week
Two weeks $_____ per two weeks
Other $_____ for _____

31) Does your job have any of the following benefits?

2 paid vacation
3 retirement plan
4 sick leave
5 health insurance plan **[ASK Q.32]**
1 no benefits **[GO TO Q.37]**
18 other _____

32) **[IF HEALTH PLAN]** Are you covered under this plan?

1 yes 0 no **[GO TO Q.37]**

33) **[IF YES]** Does your employer pay a portion of your insurance premium?

1 yes 0 no **[GO TO Q.35]**

34) **[IF YES]** Is this . . .

1 less than 1/2,
2 more than 1/2, or
3 all of the premium?
19 don't know

35) **[IF MARRIED]** Does your health insurance cover your spouse?

1 yes 0 no

36) Does your health insurance cover your children/dependents?

1 yes 0 no

[ASK ALL EMPLOYED] I'm going to read some sentences about work. Please tell me how much you agree or disagree with each sentence. Tell me if you strongly agree, agree, disagree or strongly disagree with each sentence. If you are undecided, please tell me so.

		SA	A	UND	D	SD
37)	I am satisfied with my present job	5	4	3	2	1
38)	I have a lot of responsibility at work	5	4	3	2	1
39)	With my present skill level, I have no chance for promotion	1	2	3	4	5

40) **[ASK EVERYONE]** Do you rely on anything else **(IF EMPLOYED]** other than your job) to help make ends meet, things such as gardening, trading, bartering, or selling things at the flea market?

1 yes 0 no **[GO TO Q.42]**

41) **[IF YES]** How important are these extra things to your survival? **[READ LIST IF NECESSARY TO PROBE FOR RESPONSE]**

5 not really important
4 somewhat important
3 pretty important
2 very important
1 only source of income

42) **[IF MARRIED]** Is your wife/husband currently employed? **[IF NOT MARRIED GO TO Q.46]**

0 NO, not employed **[ASK Q.43]** 1 YES, employed **[GO TO Q.44]**

43) Is she/he . . .

1 unemployed, looking for work
2 unemployed, not looking for work
3 unable to work due to health condition
4 homemaker
5 retired

[SKIP Q.44 AND 45; GO TO Q.46]

44) [IF SPOUSE EMPLOYED] Is she/he . . .

1 full-time (36+ hr/wk)
2 part-time (up to 35 hr/wk)
3 employed but not at work due to illness, vacation, temporary layoff, strike, etc.
4 self employed, full-time
5 self employed, part-time

45) Is this a permanent or temporary job?

1 permanent
2 temporary

46) [ASK EVERYONE] Does your total household income include any of the following kinds of payments, right now or in the last year?

1 Food stamps
2 Aid to Families with Dependent Children (AFDC)
3 Unemployment pay
4 Worker's Compensation
5 JOBS program allowance/JTPA (this sometimes includes transportation, child care allowance, housing subsidies)
6 Supplemental Security Income (SSI)
7 WIC
8 Social Security (transfer payments--disability, veteran's, retirement, survivors)
9 None of the above
18 other _____
19 don't know

47) I'm going to read some yearly income ranges. Considering all sources of income, (including the ones we just talked about [IF ANY CIRCLED]), can you tell me the range that's closest to your total household income?

1 less than $ 5,000
2 $ 5,000 - $ 9,999
3 $10,000 - $14,999
4 $15,000 - $19,999
5 $20,000 - $24,999
6 $25,000 - $29,999
7 $30,000 or more

19 Don't know

48) Have you moved in the last year?

1 yes 0 no [GO TO Q.50]

49) [IF YES] How many times in the past year? _____

SECTION C: FAMILY/HOME LIFE

Now I'd like to ask you some questions about your family and home life.

50) Do you own your home, do you rent, or have some other arrangement? [CIRCLE ONE]

1 own
2 rent
18 other _____

51) How many people live in your home (including yourself)? **[IF NO CHILDREN IN THE HOME GO TO Q.61]**

_____ adults _____ children 18 or under

52) **[IF ANY UNDER 18]** How many in each of these age groups?

____ under 5 ____ age 5-11 ____ age 12-18

53) Are any of these children in Head Start, a pre-school program or school?

1 Head Start or preschool; 2 School; 3 Both; 4 Neither
[IF CHILDREN IN SCHOOL, HEAD START OR PRE-SCHOOL, ASK Q.54-60; IF NO CHILDREN IN SCHOOL GO TO Q.61]

54) In the last month, how often have you helped your children with their school work?

1 Never
2 Rarely (once or twice)
3 Sometimes (three to five times)
4 Often (six times or more)

55) How often have you talked with them about school in the last month?

1 Never
2 Rarely (once or twice)
3 Sometimes (three to five times)
4 Often (six times or more)

56) How many times in the past year have you visited or called teachers about your children's progress?

1 None
2 Once, twice, three times
3 Four or more times

57) Why would you call or visit your child's teacher? **[CIRCLE ALL REASONS GIVEN]**

1 To regularly check on her/his progress
2 If there are problems with her/his behavior or school work
18 Other _____

58) Do you attend school activities, other than sports?

1 yes **[ASK Q.59,60]** 0 no **[GO TO Q.61]**

59) **[IF YES]** How many school activities, other than sports, have you attended in the last year?

1 None
2 One to three
3 Four or more

60) What kinds of school activities have you attended?

_____

_____

_____

61) **[ASK EVERYONE]** Do you have any children who left school before getting their high school diploma?

1 yes 0 no **[GO TO Q.62]**

[IF YES, COMPLETE FOR EACH CHILD]

	Years of school completed	CHECK THIS BOX IF RECEIVED GED
Child #1		
Child #2		
Child #3		
Child #4 **[IF MORE SPACE NEEDED, USE SPACE BELOW OR SEPARATE PAGE]**		

[ASK EVERYONE] I am going to read you some more statements. Please tell me if you strongly agree, agree, disagree, or strongly disagree with each sentence. You may be undecided, and if so just tell me.

		SA	A	UND	D	SD	N/A
62)	A book is a good gift for a child	5	4	3	2	1	
63)	Reading gives a person ideas to share with other people	5	4	3	2	1	
64)	I have friends who have problems reading	1	2	3	4	5	
65)	People who can read will get a better job	5	4	3	2	1	
66)	**[IF MARRIED]** I have a good relationship with my spouse	5	4	3	2	1	99
67)	**[IF CHILDREN IN SCHOOL ASK Q.67-70]** Most of the time my children like school	5	4	3	2	1	99
68)	I am satisfied with how my children are doing with their school work	5	4	3	2	1	99
69)	I am satisfied with my children's behavior in school	5	4	3	2	1	99
70)	I expect my children to receive a high school diploma	5	4	3	2	1	99

SECTION D: ROSENBERG SELF ESTEEM ASSESSMENT

Now I'm going to ask you if you agree or disagree with a number of statements about yourself and your feelings. As before tell me if you strongly agree, agree, disagree, strongly disagree or if you are undecided. **[CIRCLE NUMBER UNDER ANSWER GIVEN]**

		SA	A	UN	D	SD
71)	I feel pretty healthy most of the time.	5	4	3	2	1
72)	On the whole I am satisfied with myself.	5	4	3	2	1
73)	At times I think I am no good at all.	1	2	3	4	5
74)	I feel that I have a number of good qualities.	5	4	3	2	1
75)	I am able to do things as well as most other people.	5	4	3	2	1
76)	I feel I do not have much to be proud of.	1	2	3	4	5
77)	I certainly feel useless at times.	1	2	3	4	5
78)	I feel that I'm a person of worth at least on an equal level with others.	5	4	3	2	1
79)	I wish I could have more respect for myself.	1	2	3	4	5
80)	All in all I am inclined to feel that I am a failure.	1	2	3	4	5
81)	I take a positive attitude toward myself.	5	4	3	2	1

SECTION E: POLITICS AND COMMUNITY INVOLVEMENT

Now I'd like to ask you a few questions about politics and your community.

82) Are you a registered voter?

1 yes 0 no **[GO TO A.84]**

83) **[IF YES]** Have you voted in any election in the last four years?

1 yes 0 no

84) I'm going to read a list of clubs and organizations that some people belong to. Please tell me if you belong to one.

[CHECK BOX IF RESPONDENT BELONGS TO THE CLUB OR ORGANIZATION; FOR EACH YES,] How active are you in their activities? **[CIRCLE NUMBER UNDER ANSWER]**

		Very	Somewhat	Not Very	Not at all
church or synagogue	[ ]	4	3	2	1
fraternal lodges, veterans' or service organizations	[ ]	4	3	2	1
parent-teacher association, organization (PTA,PTO)	[ ]	4	3	2	1
labor unions	[ ]	4	3	2	1
youth groups (Scout Leaders, Little League Managers, etc.)	[ ]	4	3	2	1
neighborhood or community associations	[ ]	4	3	2	1
social or sports group	[ ]	4	3	2	1
other _____	[ ]	4	3	2	1

I don't belong to any club or organization [ ] 18

I'm going to read some more statements. Again, please tell me if you agree strongly, agree, are undecided, disagree, or disagree strongly.

		SA	A	UND	D	SD
85)	My community does not have good quality public schools	1	2	3	4	5
86)	My neighborhood is a safe place to live	5	4	3	2	1
87)	I am satisfied with my community	5	4	3	2	1
88)	I worry about environmental problems in my community	5	4	3	2	1
89)	I am more interested in what goes on in my own community than in the rest of the world	1	2	3	4	5
90)	I feel hopeful about the future	5	4	3	2	1
91)	As a citizen I can help bring about needed change in government	5	4	3	2	1
92)	Public officials don't show enough concern for ordinary people	5	4	3	2	1

SECTION F: ACTIVITIES

Now I am going to ask you how often you do various activities. Some may not apply to you, but for those that do please tell me if you regularly do, sometimes do, rarely do, or never do them.

HOW OFTEN DO YOU . . . ?		reg	some	rare	never	N/A
93)	use the public library	4	3	2	1	
94)	read magazines, newspapers, or books	4	3	2	1	
95)	**[IF CHILDREN AT HOME]** read books to your children	4	3	2	1	99
96)	**[IF CHILDREN AT HOME]** tell your children stories	4	3	2	1	99
97)	pay bills yourself	4	3	2	1	
98)	talk with neighbors	4	3	2	1	
99)	need to memorize things because you can't read well enough	4	3	2	1	
100)	**[IF MARRIED]** have arguments with your spouse	1	2	3	4	99
101)	attend community meetings	4	3	2	1	
102)	how often does your health keep you from doing things you want to do	1	2	3	4	
103)	talk politics with friends and family	4	3	2	1	
104)	**[IF NOT EMPLOYED GO TO Q.109]** have problems understanding rules and regulations at work	1	2	3	4	99
105)	need to write on the job	1	2	3	4	99
106)	work with numbers on the job	1	2	3	4	99
107)	need to read to get your work done	1	2	3	4	99
108)	miss work because of illness	1	2	3	4	99

SECTION G: PHYSICAL WELL BEING

We have one last set of questions, these dealing with your physical well being.

109) Do you have any major physical or health problems at this time?

1 yes 0 no

110) Do you have a family doctor? 1 yes 0 no

111) Do you visit the local public health clinic?

1 yes 0 no

112) **[IF CHILDREN LIVING AT HOME]** Do you take your children to the doctor or public health clinic for shots and regular check-ups?

1 yes 0 no

113) How often do you go to the dentist?

1 never
2 only when needed
3 once a year
4 every six months
18 other _____

114) **[IF CHILDREN LIVING AT HOME]** Do you take your children to the dentist for regular check-ups?

1 yes 0 no

115) Do you and your family have any medical insurance, or are you covered by Medicaid or Medicare? **[CHECK ALL THAT APPLY]**

1 no coverage **[GO TO Q.117]**
2 Medicare
3 Medicaid
4 Private health insurance
5 Employer-paid health insurance

116) Who is covered? **[CIRCLE NUMBER UNDER ALL ANSWERS GIVEN; IF NOT MARRIED OR NO CHILDREN, CIRCLE 99]**

	COVERED	NOT COVERED	N/A
self	1	0	99
spouse	1	0	99
children or other dependents	1	0	99

117) Here are some faces expressing various feelings **[SHOW RESPONDENT CARD WITH FACES ON IT]**. Think for a moment what each face means to you. Point to the face that comes closest to expressing how you feel about. . .

Your house or apartment	1	2	3	4	5
The city or neighborhood where you live	1	2	3	4	5
The community where you live	1	2	3	4	5
Our national government	1	2	3	4	5
[IF EMPLOYED] Your work	1	2	3	4	5
Your non-working activities, hobbies, and so on	1	2	3	4	5
Your religion	1	2	3	4	5
Organizations you belong to	1	2	3	4	5
[IF MARRIED] Your marriage	1	2	3	4	5
Your family life	1	2	3	4	5
Your friendships	1	2	3	4	5
Your health/ physical condition	1	2	3	4	5
Your financial situation	1	2	3	4	5
Your life in general	1	2	3	4	5

Respondent ID # _____

ABE-1 LONGITUDINAL STUDY: Follow-Up Information

YOUR NAME _____
first last

YOUR ADDRESS _____
street apt. #

_____
city state zip code

YOUR TELEPHONE NUMBER ( ) - _____ - (home)
( ) - _____ - (work)

The University of Tennessee would like to do a follow-up interview in about a year with some of the people who complete this interview. Would you be willing to be interviewed again later?

[ ] Yes [ ] No [IF NO, END INTERVIEW]

[IF YES] In case you move in the next year or so, please give us the names and telephone numbers of two people with whom you will not lose touch, so that we can find you.

#1 NAME _____

ADDRESS _____
street apt. #

_____
city state zip code

TELEPHONE NUMBER ( ) - _____

How do you know this person? **Circle:** friend relative other_____

#2 NAME _____

ADDRESS _____
street apt. #

_____
city state zip code

TELEPHONE NUMBER ( ) - _____

How do you know this person? **Circle:** friend relative other_____

THANK YOU VERY MUCH FOR HELPING US WITH THIS STUDY. WE APPRECIATE YOUR TIME.

APPENDIX 4

GLOSSARY

GLOSSARY

Statistical Analysis

Data for this study were analyzed using various statistical procedures. While these are quite familiar to researchers and others used to statistical analysis, we provide here a brief guide for readers who may be less well-acquainted with these procedures.

1. **Mean**: The arithmetic mean (commonly called the "average") is the sum of all scores divided by the number of scores. For example, to determine the mean age (34) of the respondents in our sample, the sum of all the ages (4546) was divided by 132 (the number of people who answered the question about age).

2. **Standard Deviation**: Standard deviation is a measure of the variability or "spread-outness" of a group of scores. When presented along with the mean, the standard deviation provides information about how widely dispersed the scores are. If the scores in a group are very similar to one another, then the standard deviation will be small. If, however, the scores are more varied, the standard deviation will be larger. The standard deviation for age of respondents in this study is 14, indicating a fairly wide age range among participants.

3. **Significance Levels**: In the analysis of the data for this study, we conducted statistical tests looking for relationships among variables (e.g., age and income), differences between or among groups (e.g., employed versus unemployed), etc. In conducting these tests, the possibility exists that relationships or differences will be found which are strictly due to chance. Significance levels are used to convey the degree to which we are confident that our findings are not simply chance findings. The levels we selected for use in our analyses are .05 and .01, corresponding to a 5 percent error level and a 1 percent error level. Of these two, .01 implies a greater degree of confidence that our findings indicate a "true" difference between groups, or a "true" relationship among variables. Research findings are presented in tabular form in the body of this report: findings which are significant at the .05 level are indicated by "*"; those significant at the .01 level are indicated by "**".

4. **Correlations**: A correlation is a measure that describes a relationship between two variables (e.g., age and income). Variables can be described as positively correlated, which means that as one variable gets larger, so does the other (e.g., as age increases, so does income); as negatively correlated, meaning that as one variable gets larger, the other gets smaller (e.g., as age increases, income decreases); or as uncorrelated, meaning that there is no systematic relationship between the two variables (e.g., no relationship between age and income level).

   The strength and direction of a correlation is represented by a correlation coefficient (represented by "r"). Possible values for correlation coefficients range from -1.00 to 1.00. The closer the correlation is to 1.00 or -1.00, the stronger the positive or

negative relationship between the two variables. Although correlation coefficients can confirm that a relationship exists between two variables, they cannot imply causality. Thus, one might be able to say that age and income are related, but not that age causes income to increase.

5. **t-tests**: The t-test is a statistical procedure which is used in our study to compare the means of two groups to find out whether or not these means differ beyond chance differences. The result of this procedure is a number called the t-value. The larger the t-value, the less likely that differences could be attributed strictly to chance. For example, we used a t-Test to determine whether or not married and unmarried individuals differ in terms of average self-esteem. If the significance level of the test is less than .05 or .01, we can conclude that average self-esteem of the two groups does, in fact differ.

6. **One-way Analysis of Variance (ANOVA)**: This procedure is similar to the t-test procedure in that both procedures are used to compare group means. One-way ANOVAs, however, can be used in instances where two or more groups are being compared (in contrast to the t-test which can compare two groups only). The result of a one-way ANOVA is a number called the F-statistic. If this F-value is significant at .05 or .01, then at least one of the group means is significantly different from at least one other. A second procedure, called a **post-hoc test**, is used to identify which group is different from which other group(s). The type of post-hoc test used in this study is called a Bonferroni-Dunn. For instance, we used a one-way ANOVA, and a Bonferroni-Dunn post-hoc test to determine whether or not the following three groups differ in terms of average self-esteem: homeowners, renters, and persons with other living arrangements.

7. **Two-way ANOVA**: With this procedure, it is possible to examine group differences on one variable (e.g., mean self-esteem scores) due to two other variables (e.g., gender and marital status). If a significant difference (a significant "F") is found on self-esteem between males and females, there is said to be a significant **main effect** of gender (likewise for marital status). The advantage of a two-way ANOVA over other procedures is that this test allows for the possibility of an **interaction**, or a differential effect on the first variable due to the other two variables acting together. An example of a significant interaction would be if males increase in self-esteem when married whereas females decrease in self-esteem when married: if so, we can say that marital status has a differential effect on self-esteem for males and females.

8. **Chi-Square**: A chi-square test is used to determine whether or not two or more variables are related in some significant way. For instance, one might be interested in determining if gender and marital status are related, i.e., does knowing a person's gender tell you anything about the likelihood that they will be married as opposed to single. If there is no relationship between marital status and gender then we would expect approximately equal numbers of participants in each of the following categories:

married males, married females, unmarried males, and unmarried females. To address this question in our study, we performed a chi-square test of independence on the two variables, the result of which is a chi-square value (represented by "χ^2"). If χ^2 is significant at .05 or .01 then it is very likely that there is a relationship beyond what you would expect by chance between gender and marital status, such as males being more likely to be married and females being more likely to be unmarried.

9. **Cronbach's alpha**: Cronbach's alpha is a particular type of correlation coefficient which indicates the internal reliability of a measurement instrument such as the Rosenberg Self-Esteem Scale. An instrument can be said to have a high degree of internal reliability if most of the items on the instrument appear to be measuring the same thing (e.g., self-esteem). The range of possible values for Cronbach's alpha is 1.00 to -1.00. The closer the value to 1.00 or -1.00, the greater the reliability. If Cronbach's alpha is closer to zero, then the different items on the instrument are probably measuring different things (e.g., self-esteem and marital satisfaction), and the instrument is not a strong measure of a particular construct.

10. **Regression Analysis**: A regression analysis is a procedure used to determine which variables in a study are predictive of another variable (such as self-esteem). Self-esteem is a complicated variable, probably influenced by several different things. If we find that several variables (such as gender, marital status, employment status, and life satisfaction) in our study are significantly correlated with self-esteem, we will want to determine which of these variables are the best predictors of self-esteem. The result of a regression analysis is a correlation coefficient (R), the square of which (R^2) tells us the percent of the variance in self-esteem that is accounted for by particular variables in our study. If, for example, we performed a regression analysis on self-esteem using gender and marital status, and obtained an R^2 of .75, we would know that gender and marital status predict 75 percent of self-esteem. Thus, knowing a person's gender and marital status would enable us to make a good guess about their level of self-esteem.